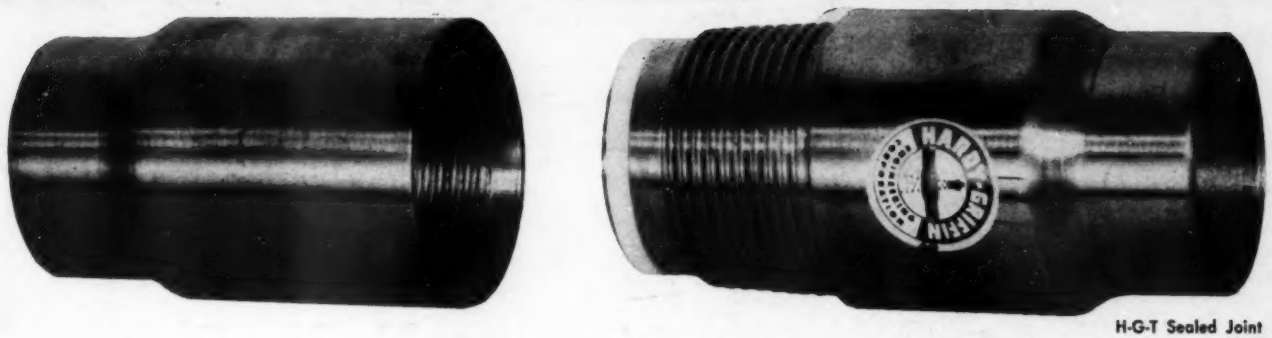
Offshore

Special Report On Hurricane Flossy
See Pages 19-23

First, the H-G-T Sealed Joint . . . Now, the G-T Sealed Coupling

ANOTHER MAJOR DEVELOPMENT BY THE

HARDY-GRIFFIN ENGINEERING CORPORATION



H-G-T Sealed Joint

For ultra high pressure, for low pressure, or any pressure in between, Hardy-Griffin Engineering Corp. now has the knowhow and the products to solve the problem of leaky tubing and casing joints.

One is the H-G-T "Super-Slim" Sealed Joint.

The other, a recent development, is the G-T Sealed Coupling.

Both employ the amazing and super tough plastic, Teflon. In the low-cost Hardy-Griffin technique, rings of Teflon are used to form an impregnable seal that withstands pressure and corrosion from acid and all types of liquids. Teflon resists temperatures up to 585° F.

The H-G-T "Super-Slim" is for integral tubing joints and thus is ideal for dually and triply completed wells, regardless of the pressures or corrosion problem.

And the Sealed Joint can be reused under the most difficult conditions.

The G-T Sealed Coupling can be used for tubing, casing or any type of pipe connection.

They can be produced for any size pipe.

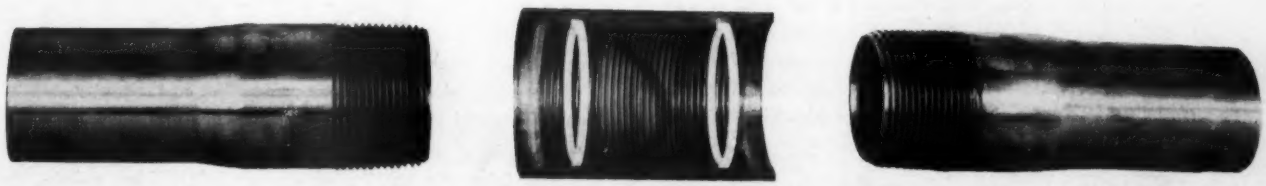
The G-T Sealed Coupling, like the "Super-Slim," has been successfully subjected to a nitrogen gas shock test by R. R. Crookston & Associates of Houston.

In addition to the advantage of providing a leak-proof coupling for new strings of tubing and casing, the Hardy-Griffin method can be used on old couplings. Addition of the Teflon seal through the company's exclusive process makes used couplings like new.

Hardy-Griffin, a publicly-owned company, is working two shifts a day in its plant at 14522 South Main St.

The company was chartered in June of 1955 and started production in May of this year.

Already, its producing capacity is 14,000 "Super-Slim" Joints a month.



PAT. PENDING NO. 435,308

G-T Sealed Coupling

HARDY-GRIFFIN
ENGINEERING CORPORATION
14522 SOUTH MAIN STREET • HOUSTON, TEXAS

Six Clyde Whirleys to Serve World's Largest Graving Dock at N. Y. Ship.

In New York Shipbuilding Corporation's new, record size dry dock, the fifth huge aircraft carrier of the Forrestal Class will be built.

THE GRAVING DOCK measures 1100 feet long by 150 feet wide by 47 feet deep and will be capable of serving the largest vessels now built or planned. The dock will contain 54 million gallons of water which can be discharged at the rate of 120,000 gallons per minute.

THE AIRCRAFT CARRIER will have an over-all length of 1,036 feet and an extreme breadth at the flight deck of 252 feet. The height of the vessel from keel to mast will equal that of a 25 story building. More than 52,000 tons of structural steel and over 1000 tons of aluminum will go into the carrier construction along with approximately 180 miles of piping and 290 miles of electric cable.

SIX CLYDE WHIRLEYS, two of 80 tons capacity and four of 40 tons, will service this gigantic dry dock in the construction of the 60,000 ton carrier.

Handling 80 tons on a 110 foot boom requires precision controls, ease of handling and above all assurance of a generous factor of safety in every part of the machine. Clyde Whirleys, incorporate many exclusive features that enable them to give the fastest, safest and most efficient service obtainable.

Large, internal, air operated friction clutches and heavy duty, spring set, air released brakes give fast and accurate load control with very little effort on the operator's part.

The rotating structure rides on four sets of equalized carriages with tapered rollers that provide smooth rotation and even load distribution on the rigidly constructed turntable.

Full capacity loads are safely handled with no upward pull on the center pin and with no tipping effect on the gantry as the center of gravity is always within the limits of the rail circle.

For full information on *all* advantages of Clyde Whirleys and for complete specifications, write for your copy of Bulletin N-12.

HOISTS · DERRICKS · WHIRLEYS · BUILDERS TOWERS · CAR PULLERS · UNLOADERS · ROLLERS

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CLYDE IRON WORKS, INC.

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WASTE HEAT ∨ EVAPORATION (seawater) CAN SAVE YOU THOUSANDS OF DOLLARS A YEAR

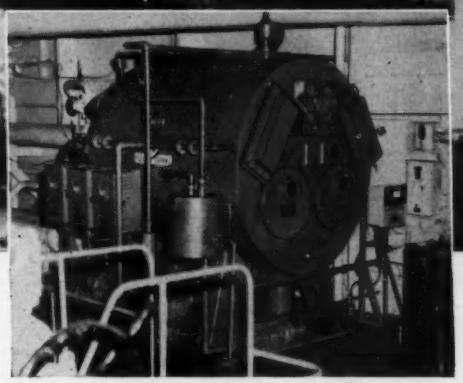
Pure water for

80% less* cost than vapor compression

93% less* cost than multi-effect

94% less* cost than purchased water

*Based on field studies made by Cleaver-Brooks engineers. See cost analysis below.



Cleaver-Brooks helps you convert waste diesel heat to working energy

FIELD checks show that compared with the three commonly used methods of producing fresh water on board drill rigs, barges and tenders—waste heat evaporation *costs you practically nothing.*

Based on the chart below, operational daily costs per 685 barrels can be trimmed as much as 94%, if you're now buying fresh water. Add to this the all-important fact that low-pressure operation of Cleaver-Brooks waste heat evaporators *practically eliminates scale formation* and drastically cuts expensive downtime.

The latent power of waste diesel heat is a hidden asset worth investigating. Models available to deliver fresh water at rates of 300 gph to 2100 gph. We invite your inquiries. Write today for complete information or call MOhawk 4-1336, Houston, Texas. Cleaver-Brooks Company, Special Products Division, 367 East Keefe Ave., Milwaukee 12, Wisconsin, U.S.A., Cable Address: CLEBRO—Milwaukee—all codes.

Here's how waste heat goes to work for you: (1) Hot water from diesel's cooling system circulates through engine cooling heat exchangers — carrying sea water. (2) Heat is transferred to the sea water. (3) As sea water flows into the evaporator vacuum chamber, part of it "flashes" to steam because of lower pressure . . . is then condensed on cooling coils. (4) Thus, fresh water is produced at rates depending on evaporator size and available diesel power.

Waste Heat Evaporators vs. Vapor Compression vs. Multiple Effect vs. Purchased Water

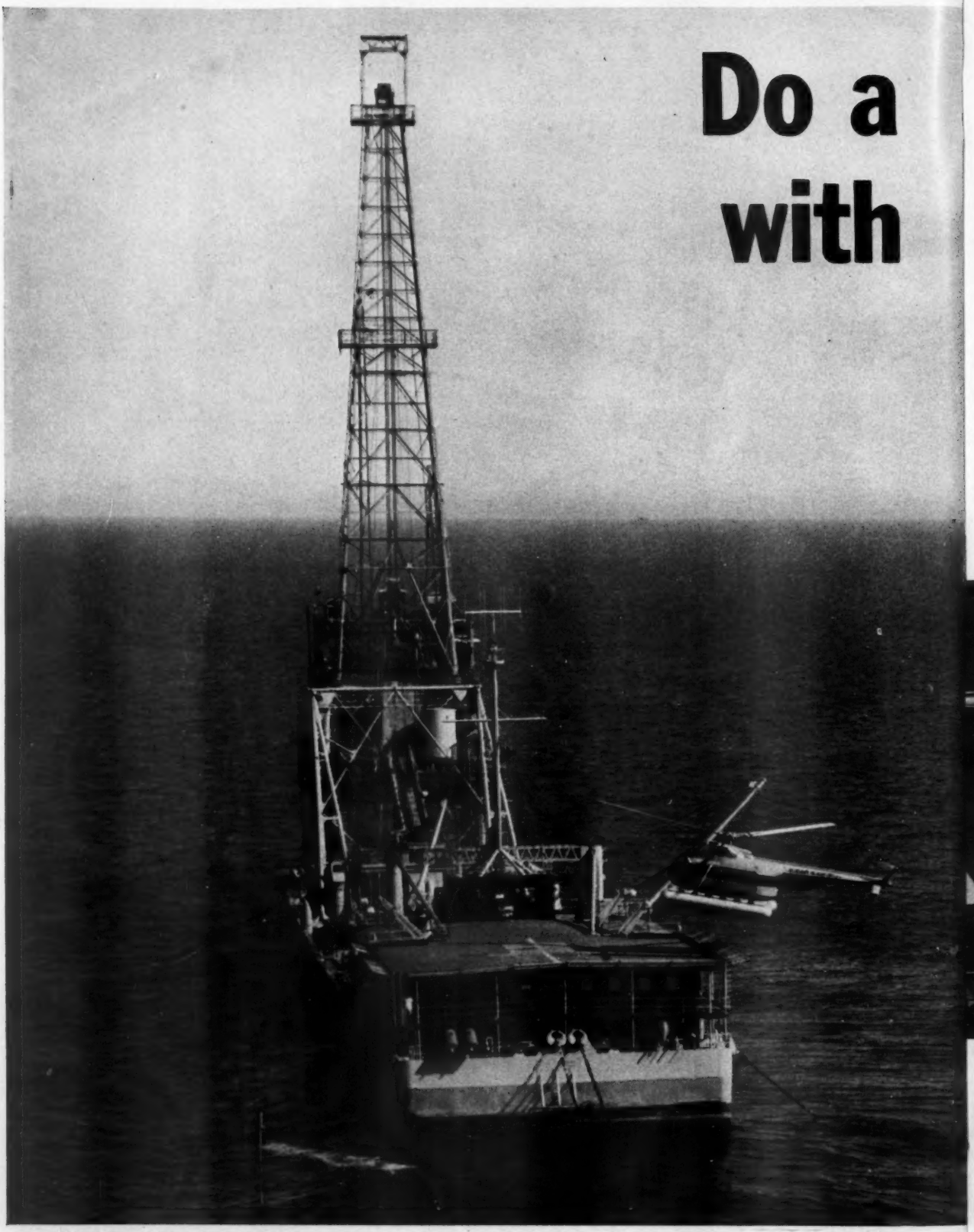
ITEM	UNIT PRICE	Typical Cost/1000 gal H_2O Waste Heat	Vapor Compression	Multi-Effect	Purchased
Diesel Fuel	● 10.6¢/gal	$0.00	48¢	$4.80	
Electricity for pumps	● 1¢/kw	20¢	1¢	14¢	
Lubricating Oil	● 77¢/gal	½¢	6¢	½¢	
Acid for Descaling	● 50¢/gal	½¢	20¢	½¢	
Maintenance and Repairs	Based on Field Experience	2¢	18¢	2¢	
Operational Labor	● $2.50 hr	10¢	85¢	75¢	
Operational Costs (1000 gal)		33¢	$1.78	$5.72	
Operational Costs (barrel)		1½¢	7½¢	24¢	25¢
Operational Daily Costs (685 barrels)		$10.28	$51.38	$164.40	$171.25

Cleaver Brooks®

25th YEAR

BUILDERS OF EQUIPMENT FOR THE GENERATION AND UTILIZATION OF HEAT AND POWER

Do a with



REGULAR, SCHEDULED FLIGHTS between rigs and shore bases simplify the offshore transportation problem. The 85 mph cruising speed of the Sikorsky S-55 makes the offshore trip quick and comfortable. Passengers step easily, safely from the helicopter cabin onto landing platforms on tenders or on rigs.

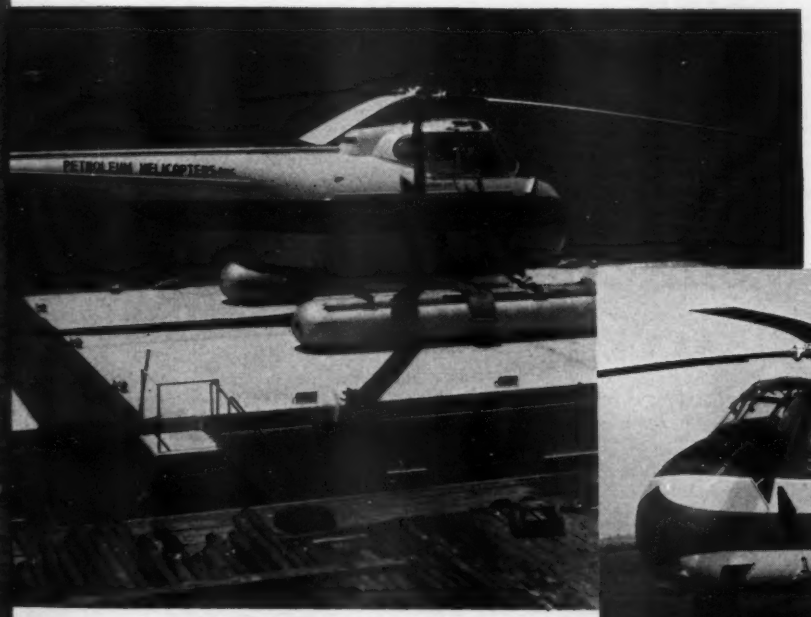
better job offshore Sikorsky Helicopters

Oil companies active offshore in the Gulf of Mexico area are discovering the clear-cut advantages of using big, dependable transport helicopters. Shuttling to and from rigs on routine trips or to meet rush needs, Sikorsky helicopters are today earning their way in both oil company and charter operation.

Fast and powerful Sikorsky helicopters in normal operations carry about 20,000 crewmen and specialists each month in the Gulf of Mexico area. Even the most distant rigs are reached easily, in a few minutes, and on short notice.

In today's service offshore, Sikorsky helicopters are again offering proof of their dependability and versatility . . . qualities which have been repeatedly shown in successful operation in jungles, at sea, in deserts, and in mountain areas.

The familiar Sikorsky S-55 and its new companion, the even larger S-58, are the acknowledged leaders in the transport helicopter field. They offer a solution for many of your offshore transportation problems.



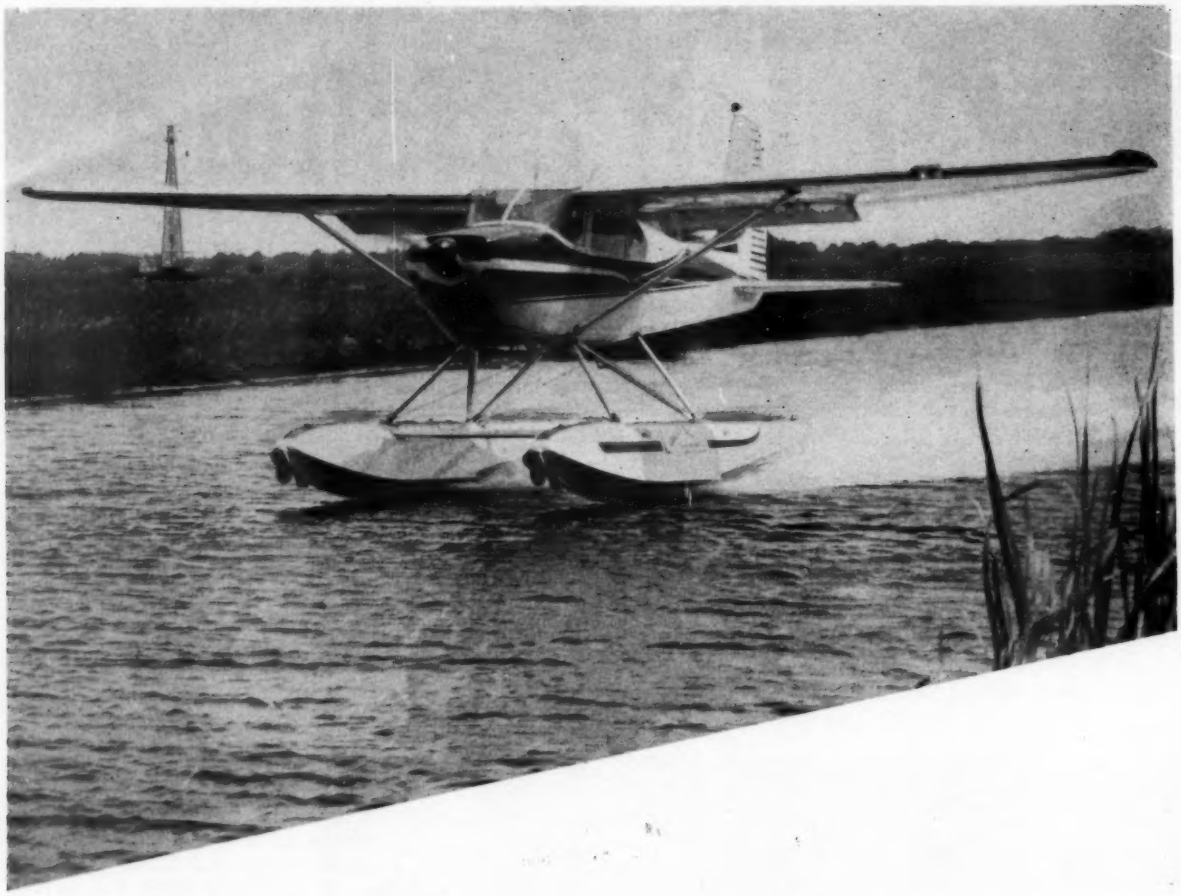
SIKORSKY HELICOPTERS pay off in many ways. They cut investment in surface transportation, cut down generally high overhead costs by saving hour after hour of valuable time. At left, an S-55 lands aboard a deep-water rig on a platform built atop the crew's living quarters.

EVEN LARGER SIKORSKY S-58s, proved by the military and now available commercially, are being ordered with flotation gear for offshore service. Here, Okanagan Helicopters Ltd. accepts delivery of an S-58 scheduled for high-priority cargo work in the remote Canadian North. An S-58 can carry 12 passengers 150 miles offshore and return without refueling. It cruises at better than 100 mph.

For more information on Sikorsky helicopters, telephone or write B. L. Whelan, general manager, Sikorsky Aircraft.

SIKORSKY AIRCRAFT BRIDGEPORT, CONNECTICUT

One of the Divisions of United Aircraft Corporation



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STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

OFFSHORE, published monthly at Conroe, Texas for November 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, John H. Latham, 301 E. Davis, Conroe, Texas; Editor, Jim Cockrum, 301 E. Davis, Conroe, Texas; Managing editor, None; Business manager, Jean Latham, 301 E. Davis, Conroe, Texas.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Industrial Trade Publications, 301 E. Davis, Conroe, Texas; Owners: John H. Latham, 301 E. Davis, Conroe, Texas; Jean Latham, 301 E. Davis, Conroe, Texas.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) NONE.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the persons or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

JOHN H. LATHAM
(Signature of editor, publisher, business manager, or owner)

Sworn to and subscribed before me this 28th day of September, 1956.
(My commission expires June 1, 1957)
T. Ainsworth

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Way Offshore

With the Publisher

Now that Flossy has flounced her swirling skirts into history, we can all take our feet down off the flight deck and relax. We can even turn our attention to more mundane matters.

So speaking of another kind of fete (social) and feats (outstanding), I would like to draw your attention to an old amigo named John W. Wagner who is now with the Texas Mid-Continent Oil and Gas Association. John should have holes in his head, no less. He has put so many of his memory cells to work that he needs an outlet for surplus electrical energy stored between his ears (whether this electrical energy is A-C or D-C, we have no notion which).

John was the genial host at a press party given by the association during the annual shindig in Houston this year. There were well over a hundred guests at the party—many of whom he'd never laid eyes on before. But John rose right after dinner and introduced every guest present—not only by name, but by company affiliation and how each man knotted his cravat. It was a marvelous display of memory, and John certainly deserves a big hand.

Under similar circumstances, I'll swear I can't even remember my wife's name—even though it's suspiciously like my own. I just call her "Mrs. Smurp," and the name of the old friend I'm introducing her to comes out something like "Smoprucker" said through a mouthful of marbles under a wet blanket.

But it was a swell shindig and I got a big kick out of running into such characters as Brown Booth, Clint Pace and other long-time associates of the fourth estate. The whole OFFSHORE staff is already looking forward to the next Texas Mid-Continent meeting — but we'll see you a lot sooner than that!

In fact, next month.

Long John Latham

Day-to-day performance is the surest measure of a service company's professional integrity

INTEGRITY, LIKE OTHER THINGS that can't be put in a bank box is nevertheless one of the most important parts of a company—particularly in a company serving the oil and gas industry in the Gulf of Mexico where the stakes are so high.

But integrity cannot be acquired overnight. It must be fostered by policy, based on tradition, built on performance. It must be reflected in the every-day performance of the company's representatives.

The men representing Offshore Raydist, Inc., know this. O-R-I management recognizes it as one of the most important links between their organization and the oil and gas companies it serves. And you trust a company whose integrity has been proven by performance.

Continuous radiolocation facilities from Mobile Bay to the Rio Grande

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SERVICING SEISMIC, GRAVITY AND MAGNETOMETER SURVEYS AND WELL LOCATION CREWS

XUM

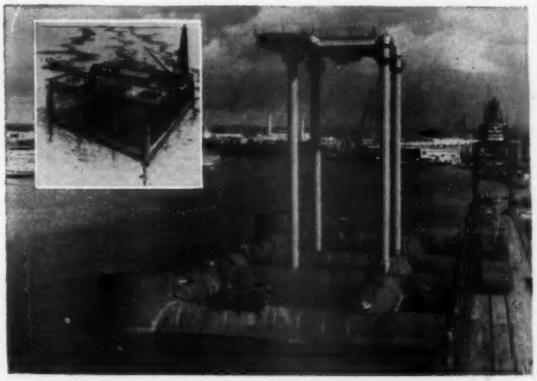
Six Rigs—Four Companies

ALL ELECTRO

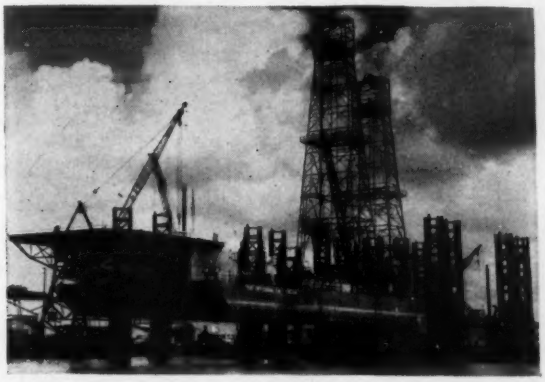
—All Diesel-Electric...and
-MOTIVE POWERED

We had this aerial view of the yards at Orange, Texas, taken for just one reason. It tells more literally than words how Electro-Motive Power is being accepted in the drilling industry everywhere. In this one photograph, there are six offshore drilling platforms or tenders in various stages of construction for four different concerns. All have one major thing in common: *each is equipped with Electro-Motive Diesel-Electric Power.*

For drilling over land or water it will pay you to investigate the flexibility, control and economy of Electro-Motive Power — the new standard for deep drilling applications. Contact your Electro-Motive representative for complete details.

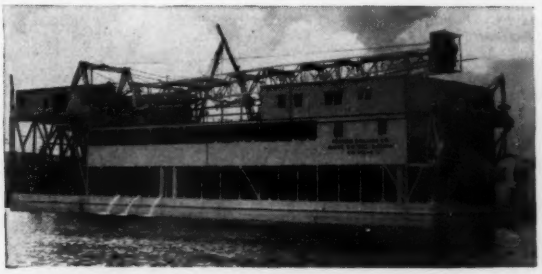


1 Shown here is Kerr-McGee's Rig No. 47, a mobile type of drilling device under construction by American Bridge Division of U. S. Steel. Three Electro-Motive Power units will be located on the rig, supplying power for mud pumps, drawworks and rotary table. Due for completion late this year, the drilling device brings to three the number of Electro-Motive Powered rigs for Kerr-McGee.



2 Rigs No. 54 and 55 for Offshore Company are shown here nearing completion in the American Bridge yards of U. S. Steel Corp. These mobile drilling barges, each powered by three 875 hp. Electro-Motive Power units, are capable of operating in waters up to 100 feet in depth. Each barge measures 200 feet long and 104 feet wide and contains eight hydraulically operated, 225-foot supporting legs.

3 This tender, one of four being converted for a major oil company, is shown at the Levingston yards at Orange. A former LST, the tender features a heliport and is completely outfitted with modern eating, sleeping and recreation facilities for the crew. Two 12-cylinder Electro-Motive Power units rated at 1200 hp. each will be located in the tenders as the power source for large mud pumps.



4 The Penrod Drilling Company's W. H. (Bill) Dordan, a submersible island drilling barge, powered by 3 Electro-Motive units, is one of two recently christened. Built by Levingston, the Dordan is now drilling for Placid Oil Company. The second Electro-Motive powered barge, the Tom Sorrell, is also completed and drilling for Placid Oil. Both these barges are capable of drilling 18,000 feet in 19 feet of water.

ELECTRO-MOTIVE DIVISION · GENERAL MOTORS

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A new and splendid example of GEORGE POWER is the CLARA•B, a sleek 35' x 12' beam x 2.5' draft crewboat built by Roy Breaux of Roy Breaux's Marine Service, Loreauville, La. Talk about all the comforts of home, you have them on the way —dinette table, modern galley, inlaid linoleum on the cabin deck. But more than this, there's **power**—dependable, swift GM power as furnished by two General Motors diesel engines, Model 4071A. The CLARA•B features an automatic electric bilge pump (clutch-type); 1½ : 1 Allison hydraulic reduction gear; two 22/22 propellers; and a centerline bulkhead between the cabin and the engine. The all steel hull has been sandblasted and metalized inside and out. The cabin of the CLARA•B is of Honduras mahogany marine plywood over 5/4 cypress framing with Plexiglass windows, and has a seating capacity of 12 persons. The proud owner . . . Mr. Daniel Buras of Boothville, La.

Whenever you want the **best** . . . get GEORGE POWER!

DIESEL *power by*

George Engine

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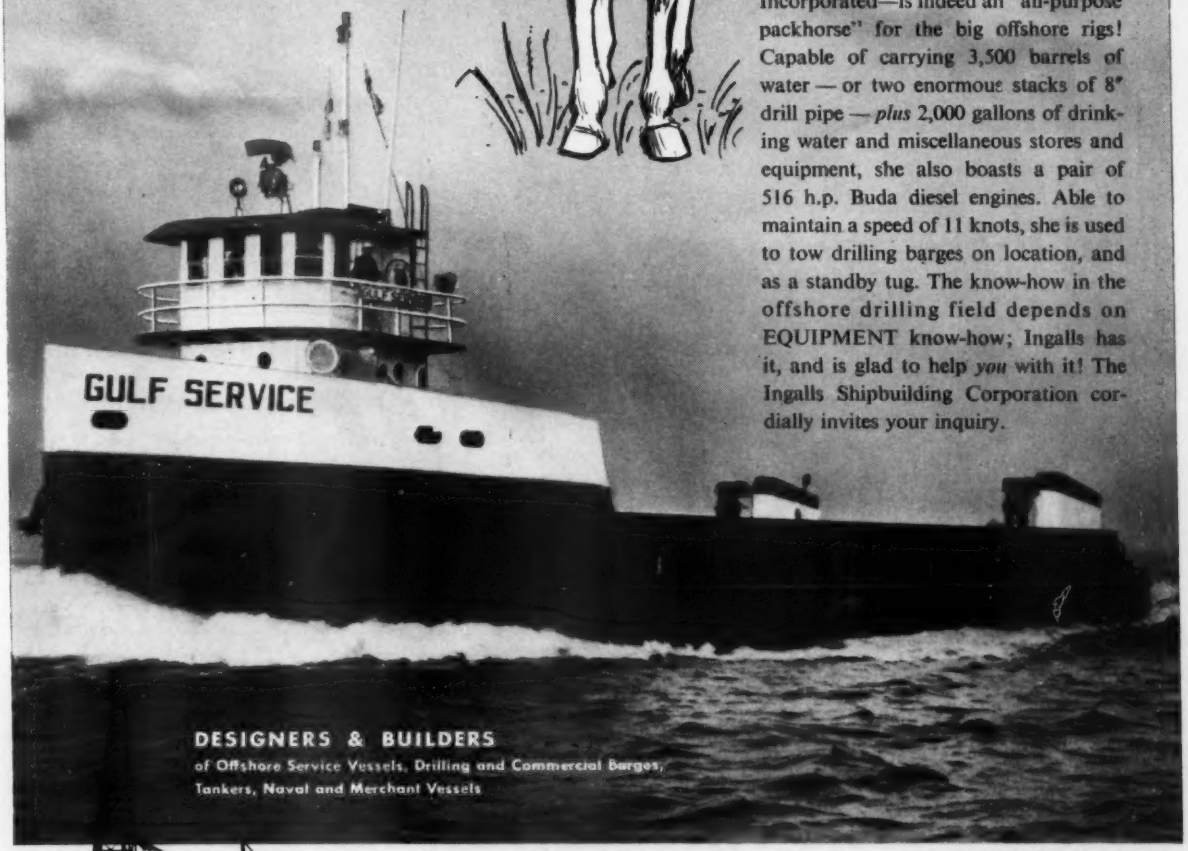
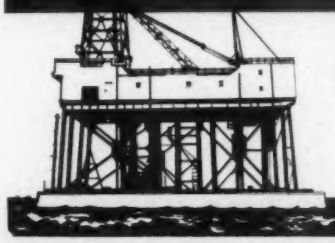
GM GENERAL MOTORS DIESEL POWER

all-purpose packhorse FOR OFFSHORE RIGS!

Tough, versatile, tremendously dependable, this offshore supply vessel — one of four built by Ingalls for Sea Service Incorporated—is indeed an "all-purpose packhorse" for the big offshore rigs! Capable of carrying 3,500 barrels of water — or two enormous stacks of 8" drill pipe — *plus* 2,000 gallons of drinking water and miscellaneous stores and equipment, she also boasts a pair of 516 h.p. Buda diesel engines. Able to maintain a speed of 11 knots, she is used to tow drilling barges on location, and as a standby tug. The know-how in the offshore drilling field depends on EQUIPMENT know-how; Ingalls has it, and is glad to help *you* with it! The Ingalls Shipbuilding Corporation cordially invites your inquiry.



DESIGNERS & BUILDERS
of Offshore Service Vessels, Drilling and Commercial Barges, Tankers, Naval and Merchant Vessels



THE INGALLS SHIPBUILDING CORPORATION

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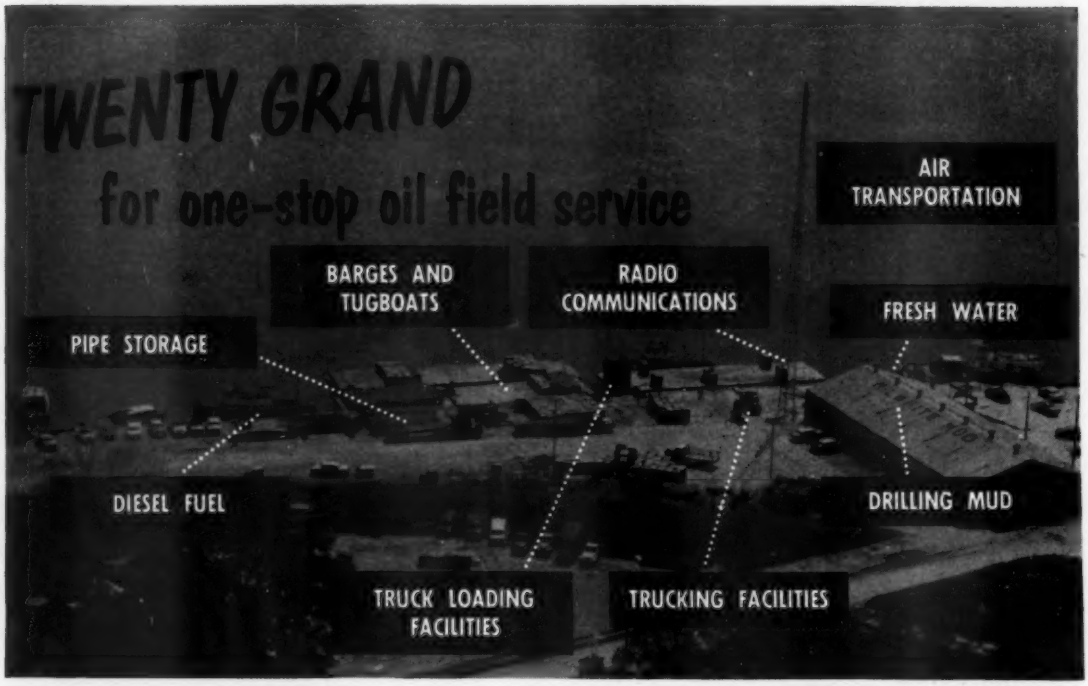
From Sabine Pass to the Mississippi



A recent aerial photo of Twenty Grand's Morgan City plant.

and there are twenty GRAND reasons why . . .

TWO MODERN PLANTS, fleets of trucks, deck, bulk and covered barges, and tugs—plus air transportation and radio communications—all geared to the quick, sure delivery of drilling mud and chemicals throughout southern Louisiana.

Speed and efficiency are watchwords of the two fully-staffed, strategically located plants at Morgan City and Cameron that put Twenty Grand in a class by itself as oil field service specialists. And Twenty Grand's one-stop service facilities are available around the clock.

All this and Twenty Grand knowhow, too, are no further away than your telephone.

Twenty Grand's integrated facilities are your assurance of the finest in oil field service.

TWENTY GRAND

OIL FIELD SERVICE, INC.

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MILWHITE DRILLING MUD DISTRIBUTORS • THE BEST OF ENGINEERING SERVICES

SAVE TIME & MONEY ON MARINE CONSTRUCTION

Pictured above is the "Carter Mart" which was completed and on location in less than six months.

Sprague Welding & Machine Works has the engineers, production facilities and steel to design and construct all types of offshore vessels and structures in short order. We invite your inquiries on any marine construction from crew boats to large mobile platforms.

SPRAGUE WELDING & MACHINE WORKS

HOUSTON 15 TEXAS

P. O. BOX 9746 GLENDALE 3-3519

Specially Designed for
• Offshore Operations
• Tenders • Barges

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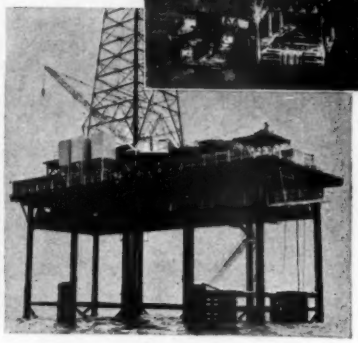

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OFFSHORE

Two engineers presented

A Look At The Future

A new national pastime is that of answering all questions about the future by pointing the palms upward, holding the elbows in at the body, raising the shoulders, and saying, "Que sera, sera!"

The national tendency toward a "whatever will be, will be" philosophy is fortunately not shared by two engineers with Shell Oil Company's Technical Services Division. The men, R. J. Howe and B. G. Collipp, proved this recently in a paper presented at the American Society of Mechanical Engineers' Petroleum Mechanical Engineering Conference, in Dallas. In the paper, they classified 38 mobile units, outlined current trends in design, and engaged in some speculation as to future mobile unit design.

The paper brought up these points about the future:

Designers seem to be thinking in terms of different general types for different water depths. In shallow water, less than 70 feet, certain fixed-deck types seem to have the edge because of cheaper construction.

Units which employ jacks to raise the working deck on location are expensive to construct and costly to operate. For this reason, floating vessels may have some effect on the use of this type of platform.

There is a definite need for a new type of unit for shallower water. Such a unit would have to offer both the comparatively inexpensive operational cost of a marsh rig and a mobile unit's ability to operate under adverse conditions.

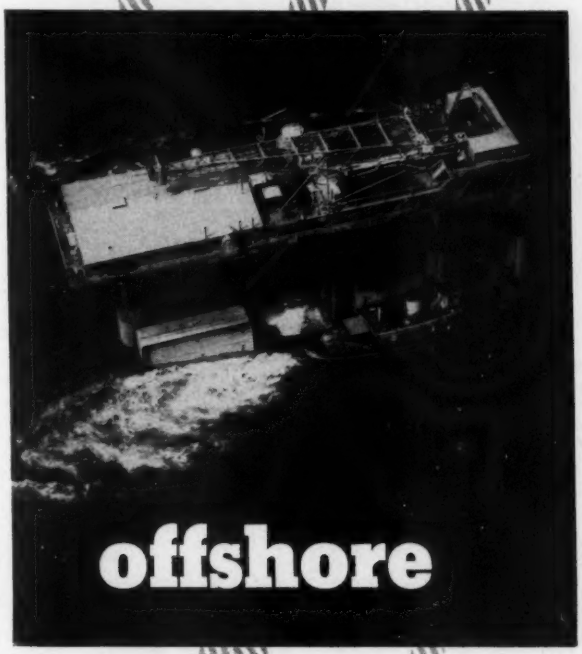
In the next few years mobile units and fixed platforms may operate near a maximum of 250 feet, compared with 600 feet for floating units. Floating vessels could open vast areas of the Gulf of Mexico to the drill bit.

When underwater completion methods become workable, impetus will be added to mobile drilling activity of all types.

Streamlining, from hull to derrick, may become an accepted procedure in the future.

THE EDITOR.

the busiest towlines



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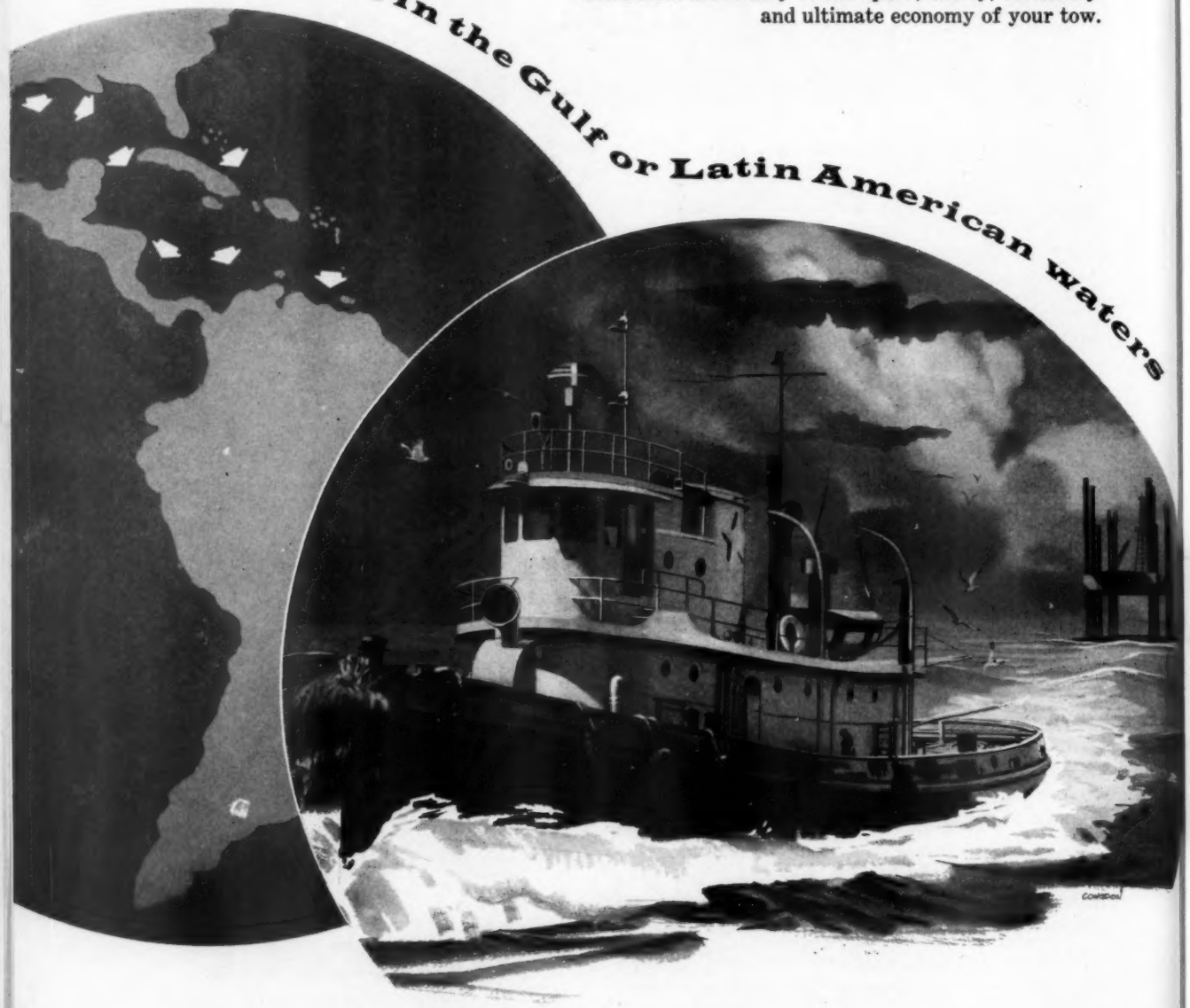

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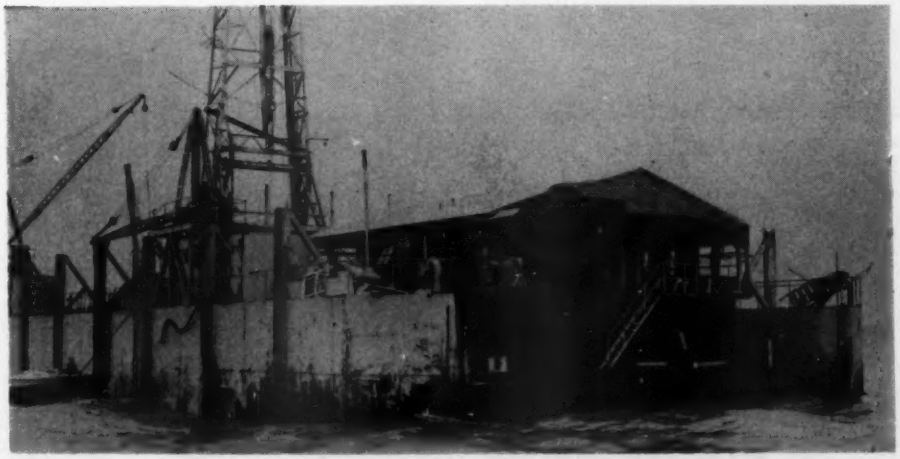
WHAT HURRICANE FLOSSY DID:

In Timbalier Bay

Terrific wind and wave forces twisted the mobile unit CARTER MART 90 degrees from its original position, pushed it 40 feet off site. The blowout preventer was jerked off the conductor casing and the hole was lost. A drill collar fell from the top deck and punctured the lower hull, necessitating repairs before the barge could be refloated. The Morris & Hamilton unit was drilling for The Texas Company.

In The Main Pass Area



The unoccupied living quarters on Phillips Petroleum Company's RIG NO. 42 were heavily damaged and had to be completely rebuilt inside. Also requiring extensive repairs were DC electric ballast pumps, and rig motors and generators. The rig moved 500 feet off site. It had been drilling for Kerr-McGee Oil Industries, Inc.

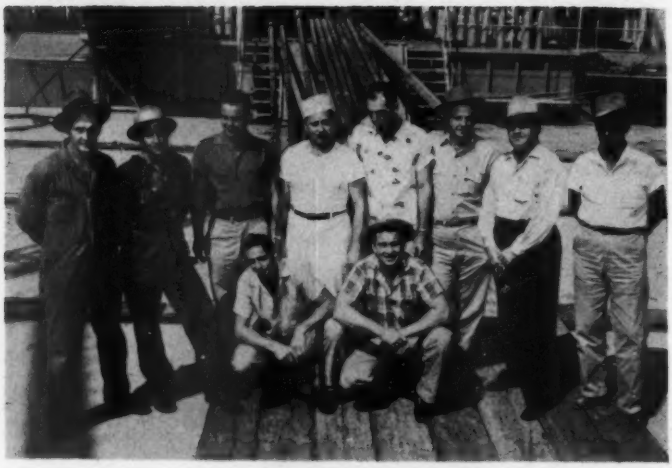
What Flossy Did:

Near Pointe-A-La-Hache

Two boats wound up side-by-side, close to the water but aground. At left is a quarter boat, at right the supply vessel **COASTAL SERVICE.**

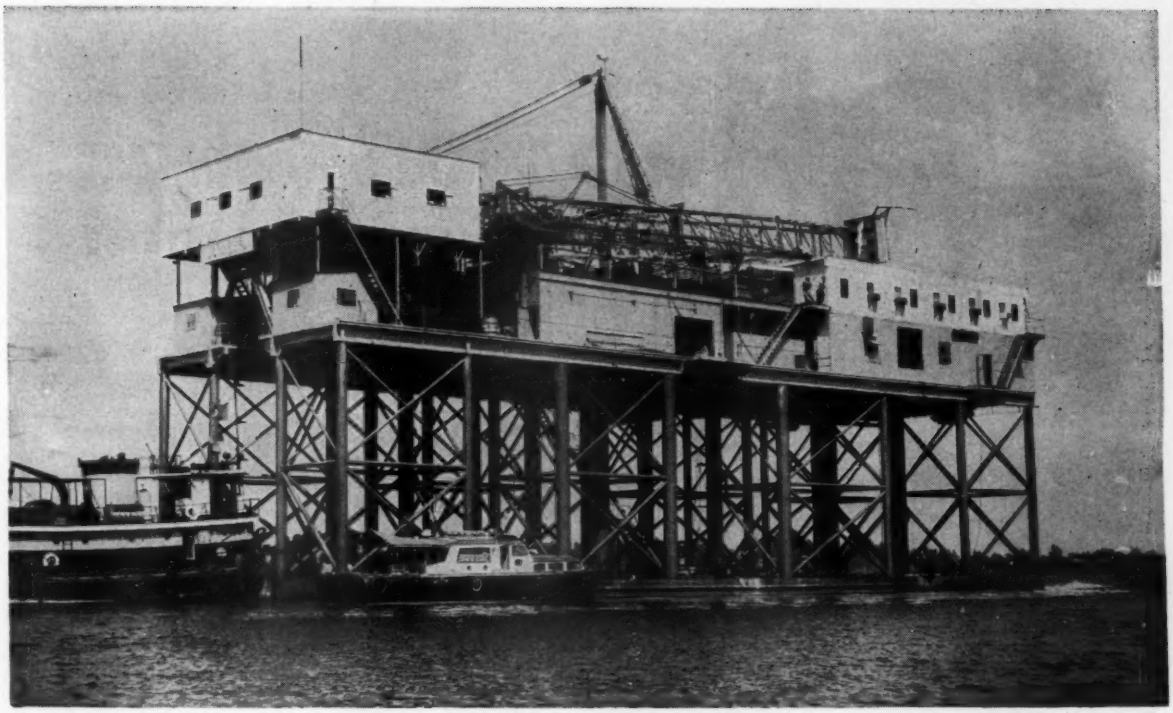
In The South Timbalier Area

Damages were sustained by the **K. S. ADAMS** when it went aground off Caillou Island. J. Ray McDermott **BARGE NO. 5,** right, is shown lightening the Phillips tender preparatory to refloating it.



Some men rode the storm out. On Kerr-McGee's **RIG 44** fourteen men were stranded. At left are 10 who stayed. Back row, left to right, are J. E. Simpson, A. M. Sonnier, A. Barrilleaux, J. J. Vining, Jimmie T. Beaver, J. P. Symms, A. M. McConnell, and D. Touchet. Front row are Lester Campbell and Douglas R. Bush. Not shown are T. V. Alford, toolpusher; W. A. Reed, and two unidentified Halliburton men.

Some men rode the "suicide line." Eight men aboard Kerr-McGee's **RIG 40** were rescued by a Coast Guard helicopter. One at a time, they were carried in an arm sling dangling beneath the 'copter to The Texas Company's camp on Caillou Island. There they boarded a crewboat for home base, getting lost in the hurricane and taking 18 hours to make a normal 1-hour, 45-minute trip. Left to right are A. Shannon, Patrick LeBlanc, L. J. Simon, A. Moore, Charlie Stevenson, Howard Smith, and Gordon Oxley. Not shown is J. T. Dick, toolpusher for The Texas Company. Pictures for this story by Jesse Grice and Otis Danielson, Morgan City, Louisiana.



Another for Odeco by American Marine!

ST. LOUIS TO JOIN CELEBRATED MR. CHARLIE AND JOHN HAYWARD

The third deep-water drilling barge that American Marine Corporation has designed and built for Odeco is shown above and at left on American Marine Corporation's huge capacity drydock for final outfitting prior to delivery. The new "St. Louis" is virtually an exact copy of the John Hayward, both patterned after the first of the greats, Mr. Charlie.

The St. Louis is an integrated submersible two story unit 180' x 120' with helicopter deck and air conditioned living quarters for 40 men. Drilling capacity is to 18,000 feet in 30 feet of water.

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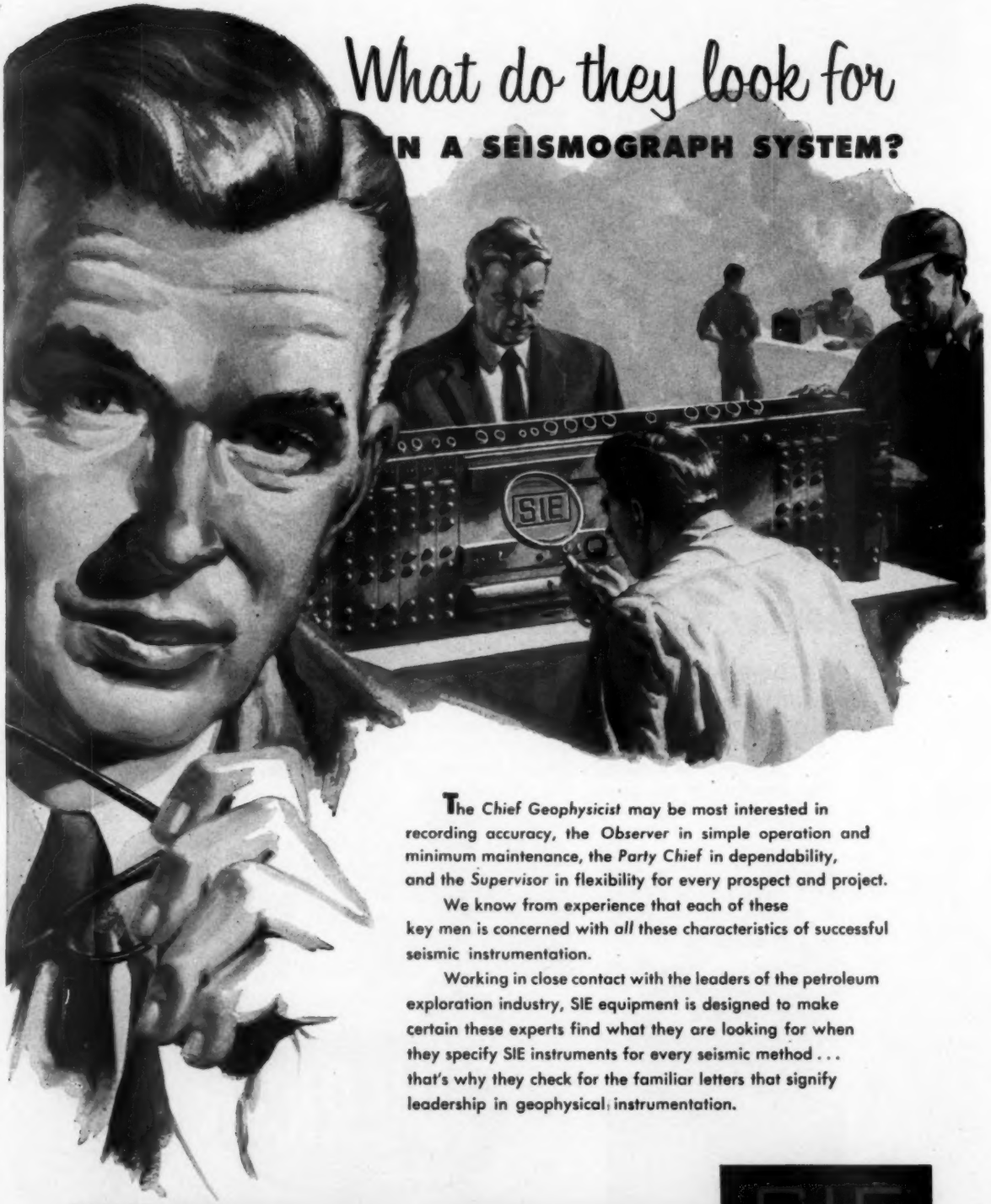

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On the ERNIE MILLER

Ten Men Are Cast Adrift In Raging Gulf Hurricane

This is the short saga of 10 men, an angry sea, and a drilling tender which sustained remarkably little damage despite buffeting by a hurricane.

For 24 hours the men rode the tender as it pitched and tossed on waves driven by hurricane winds which reached 110 mph.

Three times, at least, they braved the fury of Hurricane Flossy to go on deck and secure pipe which had broken loose.

While 40-foot waves heeled the vessel over as much as 40 degrees, a 19,000-pound blowout preventer rolled loose on deck, smashing holes in the steel base of a crane and bending a deck railing as if it were solder wire.

After a winch broke, they drifted helplessly for almost 14 hours. The tender came close to going aground on the shelf area of the Mississippi River delta before the eye of Flossy passed and the reversing winds pushed it back out to sea.

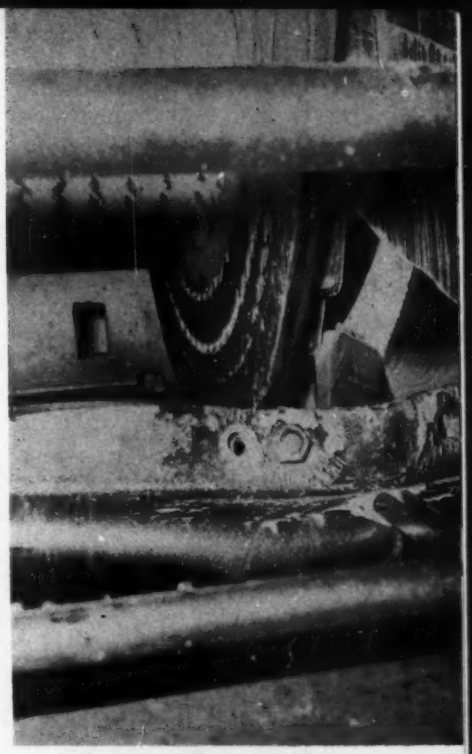
The men were the crew of the CATC group's tender **Ernie Miller**, which began September 24 on location in Block 45, West Delta Area, and at 9 that evening was taken under tow after a wild ride which tested both men and ship.

First aboard . . . Mike Bogle, editor of Continental Oil Company's employee newspaper, THE CONOCOan, and Bill Cotter, drilling foreman for Continental at Harvey, Louisiana, were the first Continental Oil Company officials to board the tender after the storm.

Bogle wrote:

"The 10 men who stayed aboard the **Miller** and road the hurricane out—eight seamen and two cooks—were beat right down to their shoes. Weariness rode back in their eyes, but covering their weariness was a look of triumph and pride. They had stayed aboard and had won."

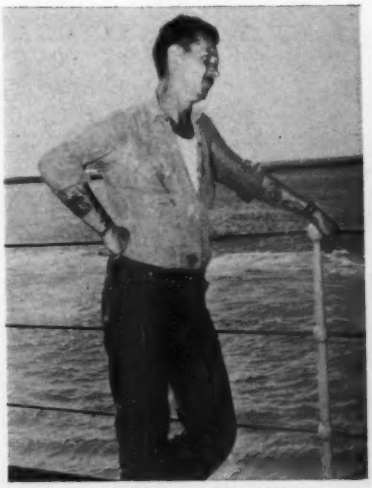
Skipper Harold Adams told Bogle, "I've been at sea 21 years, in typhoons, hurricanes, squalls. This was my biggest experience and I just never thought a tender like this would hold. You tell the Conoco and other companies of CATC they have a real piece of equipment here. The men who built her (Levingston Shipyards, at Orange) can be proud of her."



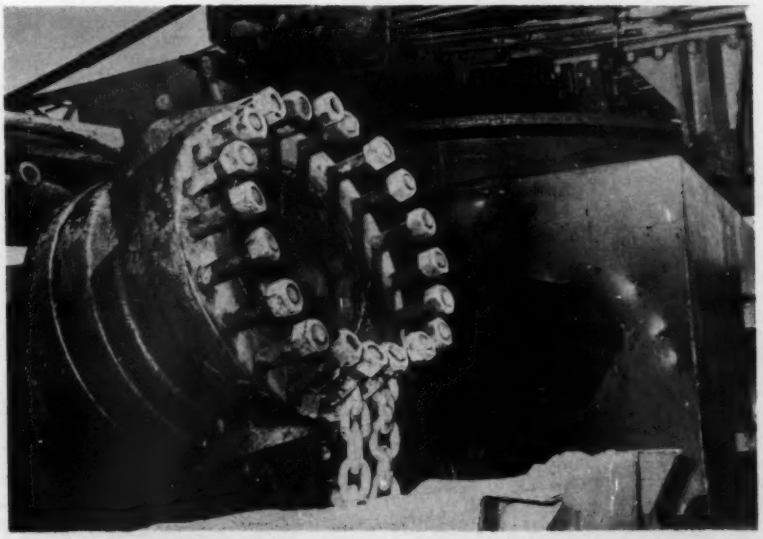
AND IT ALL BEGAN WHEN the pawl on this mooring winch gave way and all the storm cable paid out, leaving the vessel free to drift. Pictures by Mike Bogle, editor of THE CONOCOan.

The **Ernie Miller** was one of two CATC tenders which broke loose under poundings by Flossy. The tender **Jack Cleverley,** which had been farther west in the Grand Isle Area, drifted 11½ hours with 8

(Continued on next page)



With the storm passed and the tender under tow, Skipper Harold Adams gazes through tired eyes at the now calm sea that shortly before had threatened his crew and his tender.



During the storm this blowout preventer broke loose from its deck mooring, rolled menacingly about the deck, and punctured the steel base of the crane.

Ten Men In A Hurricane . . .

(Continued from preceding page)

men aboard before it was taken in tow. It sustained even less damage than the **Ernie Miller,** despite winds which reached 110 mph, and was back on location shortly.

M. S. Kendrick, manager of the CATC region of Continental Oil Company, was pleased with the performance of the men and the tenders. Said Kendrick, "We're tickled to death with the performance of the crews on the tenders. We think they did an outstanding job."

Future plans . . . Armed with the knowledge gained from this hurricane—the first its tenders have faced —the four-company CATC group is already making plans for improving its storm moorings.

While drilling, CATC tenders are moored by seven long cables attached to pilings driven into the Gulf floor. The 2¼-inch diameter cable wire is in short lengths attached by links of chain. On the bow of the tender, one cable leads from a winch straight forward to a piling 2,000 feet away. Two other cables (also on winches) lead diagonally out from the bow to pilings at a distance.

When a storm approaches all but the cable leading straight out from the bow are let go. This makes it possible for the tender to swing freely and stay headed into the sea. Two anchors on short chains are let out to dangle off bottom and increase stability.

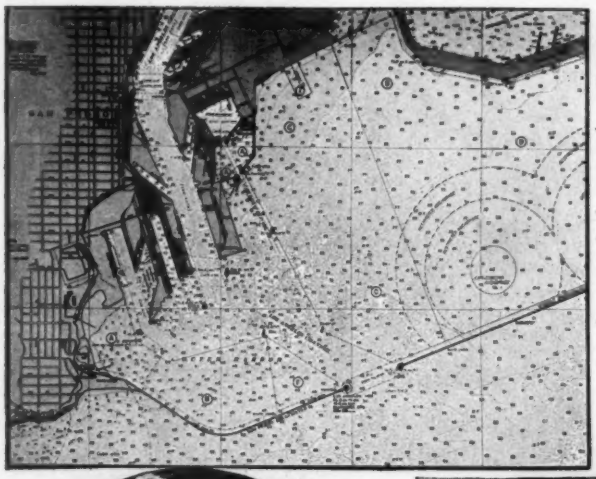
Small things can make the big difference in a storm. The **Jack Cleverley** went adrift after a chain link broke. CATC plans to use continuous cable in the future.

On the **Ernie Miller** a pawl which keeps the storm cable winch from rotating broke. This left the ratchet free to turn and the storm cable paid out into the sea. The crew dropped both anchors to the bottom. About an hour later, at 3:35 a.m., the port anchor chain broke. At 7:30 a.m. the starboard anchor carried away and the vessel was adrift.

CATC plans two changes to prevent this in the future. A V-shaped bridle will be attached to the storm mooring cable at a point close to the winch. This will take the strain off the winch and provide double protection —if either winch or bridle fails the other will still hold the line.

Also, two additional anchors are to be located close to the two winches which usually hold cable leading diagonally from the bow. If the center storm mooring fails, an anchor can be attached to a long cable on either of the winches. It will then be let out to provide a long storm mooring which will permit free swinging of the vessel.

The CATC group is composed of Continental Oil Company, as operator, Atlantic Refining Company, Tidewater Oil Company, and Cities Service Oil Company.



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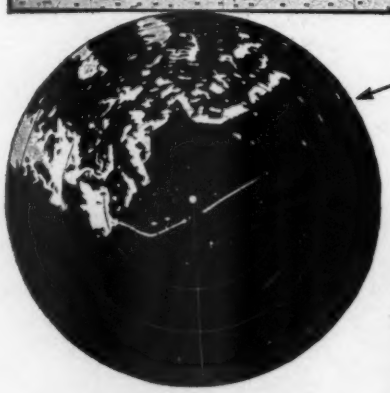

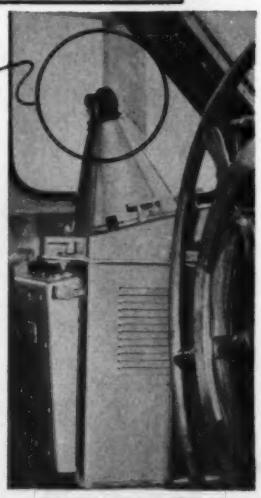

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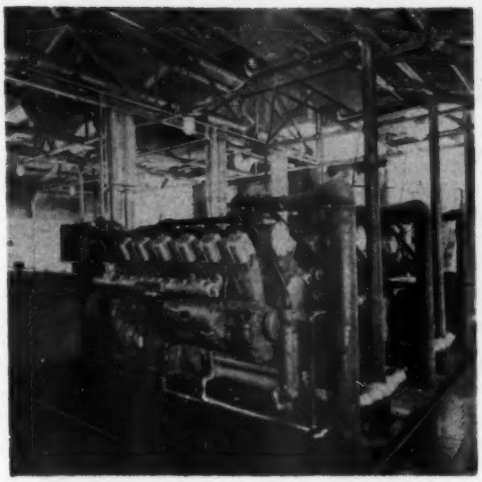
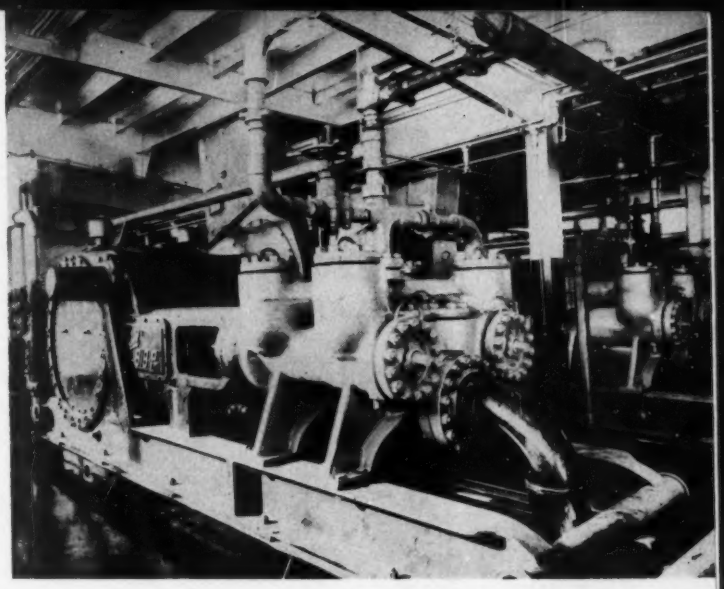




. . . to power these

Which demonstrates

The Trend Toward Greater Power

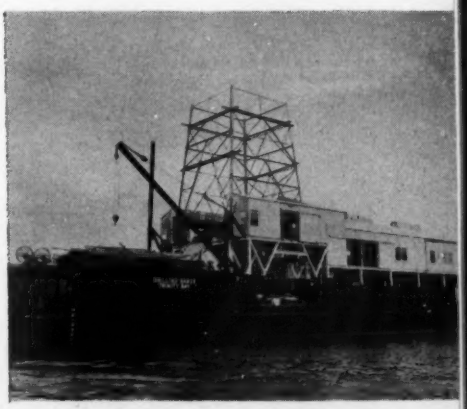
Brewster-Bartle drill barge can make hole in a hurry with its "Oilwell" 818-P mud pumps and Waukesha engines

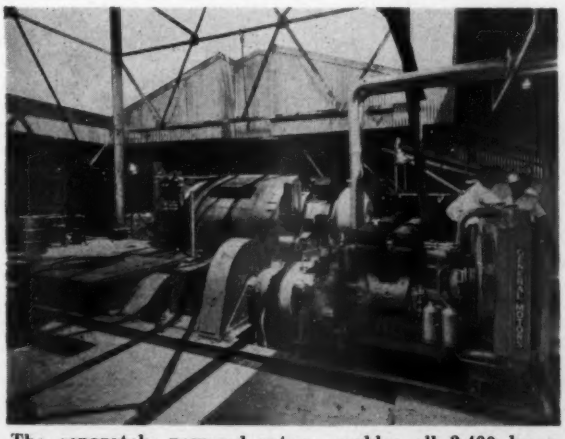
The movement toward greater and even greater horsepower for drilling, amply supported and predicted in the October issue of OFFSHORE by a panel of offshore experts, finds pictorial proof on this page. **Trinity Bay,** new shallow water drilling barge built for Brewster-Bartle Drilling Company of Houston, Texas, is a case in point.

To insure power for fast penetration and to utilize the jet drilling principle, three Waukesha turbo supercharged VLRDBSU diesel engines provide 2,400 horsepower to drive the two huge "Oilwell" 818-P mud pumps through an "Oilwell" 1500 drive. The mud pumps are rated at 925 hp each and the Waukeshas at 800 hp each.

An "Oilwell" 96 drawworks was installed. The rotary assembly—"Oilwell" No. 155-S universal drilling unit with "Oilwell" 26HD rotary and RT-1717 two-speed transmission—is separately driven, thereby making all main engine horsepower available for mud pumps and drawworks.

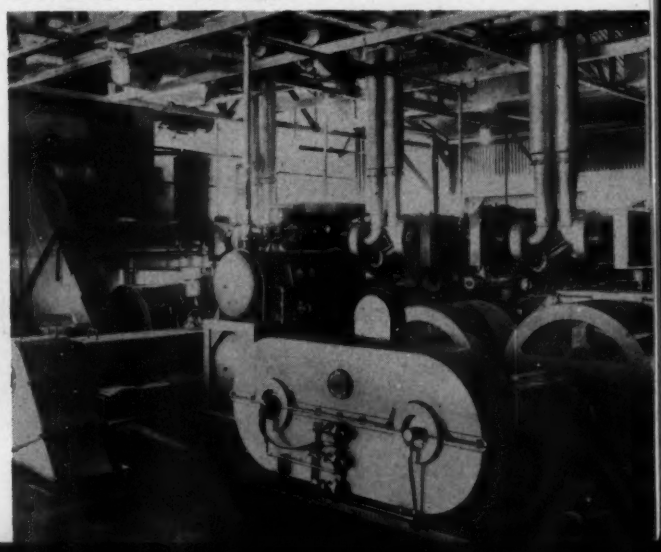
Trinity Bay, with Sam A. Graham of Houma, La., pushing tools, is currently drilling for Natural Gas & Oil Company at Lafourche Realty Co. No. 1, Lafourche Parish, Louisiana.





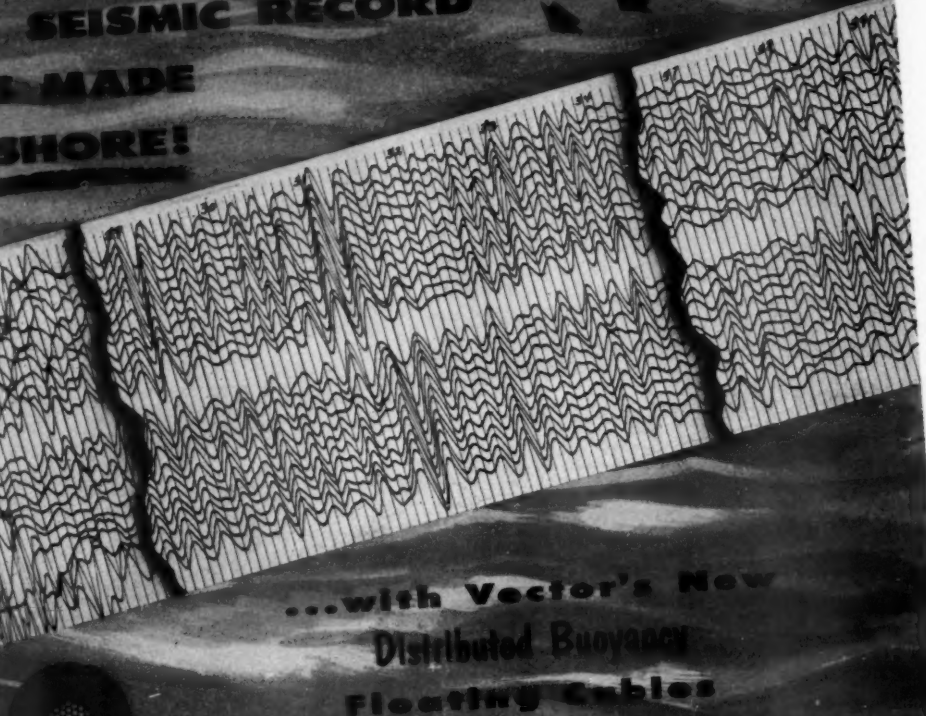
The separately powered rotary enables all 2,400 horsepower to be diverted solely for operating mud pumps and drawworks. "Oilwell" 96 drawworks is shown in background with driller's "console."

Above is the TRINITY BAY in port before leaving for location. Below is a view of the "Oilwell" No. 1500 drive with two mud pump drives. Much of the equipment aboard tailor-made for installation.



XUM

THIS SEISMIC RECORD WAS MADE OFFSHORE!



...with Vector's New Distributed Buoyancy Floating Cables

The low noise level seismograph pictured was recorded 15 miles offshore at a water depth of 40 feet. The new Vector floating cable used pressure sensitive geophones which were automatically positioned 10 feet below the surface when towing force was released.

Vector Distributed Buoyancy Cables have many other features that improve results and lower costs of offshore oil exploration — reduction of recorded noise level — elimination of cable damage and recording problems arising from bottom conditions — multiple geophones easily used. Other Distributed Buoyancy Cables are equally valuable in shallow water operations. Contact Vector for full information.

Vector Distributed Buoyancy Floating Cable is continuously extruded with a tough, resilient jacket of almost [illegible] elastomer — polyethylene. The cable assembly and stress cores are permanently bonded to the buoyant material.

The cable conductors are nylon insulated and jacketed in moisture proof neoprene which is oil filled to prevent water entry. Another example showing how Vector products are ... "Manufactured to Meet the Demands of Seismic Exploration"

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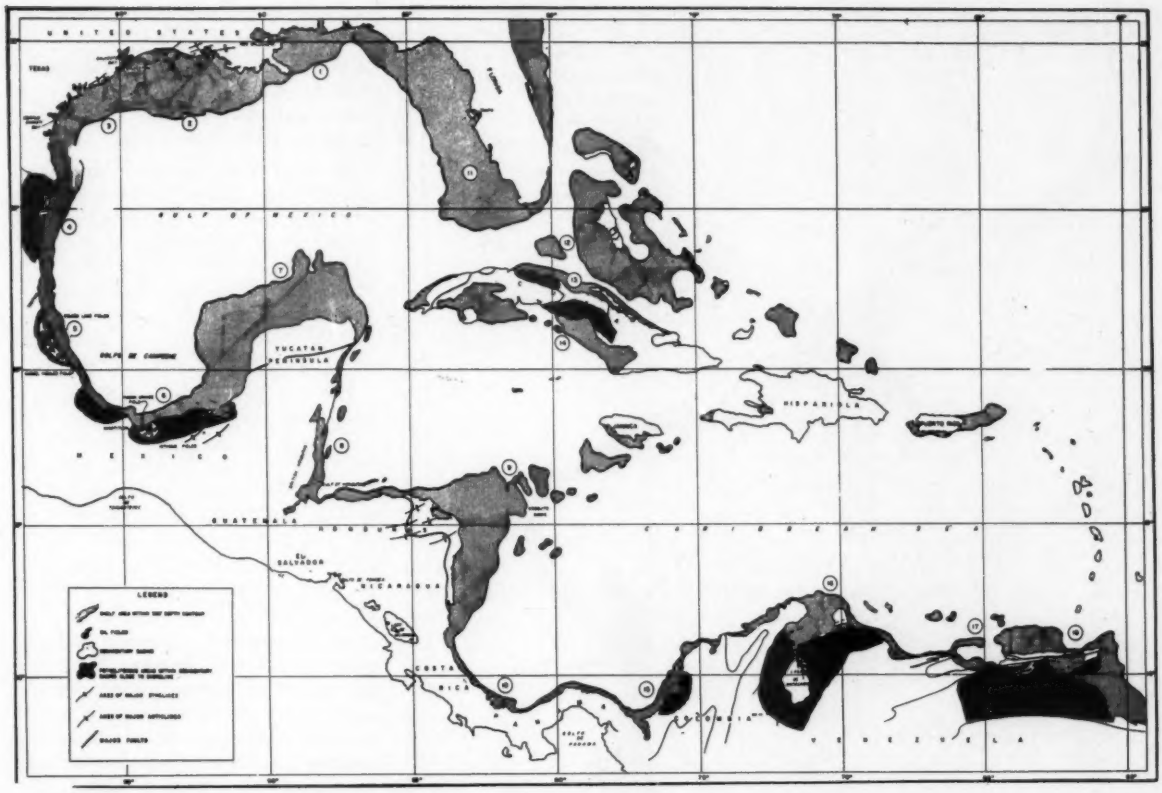

Continental shelf areas of the Gulf of Mexico and Carribbean out to 300-foot water are shown, above. Outlined are coastal sedimentary basins, oil fields, major faults, anticlines and geosynclines. Other than off the United States coast, likely areas for exploration are off Mexico, Honduras, Costa Rica, Cuba, Venezuela, and Jamaica, B. W. I.

Expert outlines

World's Offshore Oil Areas

Huge potential oil reserves lie under the submerged acreage on the continental shelves of many nations around the world

Part 1: The Americas

Within the next 10 years each of the seven seas may know its share of offshore drilling rigs. Already sea-going geophysical crews have searched a considerable expanse of the world's shelf waters, and the success of marine drilling operations in the Gulf of Mexico, South China Sea, and the Persian Gulf could well provide an impetus to overwater drilling activity.

Add this encouragement to the fact that marine drilling can be cheaper than land operations in undeveloped countries, and the future of offshore oil operations becomes obvious.

Encouraging marine activity in the Americas is the relatively high success ratio of tests drilled in the Gulf of Mexico off Louisiana to date. Elsewhere in the Gulf of Mexico, and in the Caribbean as well, activity may soon pick up.

This article describes other potential marine oil provinces of the Americas — from Mexico to the southmost tip of South America. A subsequent article will cover Europe, Africa, Asia, Australia, and some islands in the Pacific Ocean.

By DR. T. R. GOEDICKE
Offshore Exploration Group

Mexico . . . The oilfields of northeast Mexico are expected to extend toward the coast. Some geophysical activity has been done in coastal lagoons, and in the future may reach into the Gulf. Already a wildcat has been scheduled near Mexico's Golden Lane field. The Golden Lane field is in a semicircular reef which may be part of a cir-

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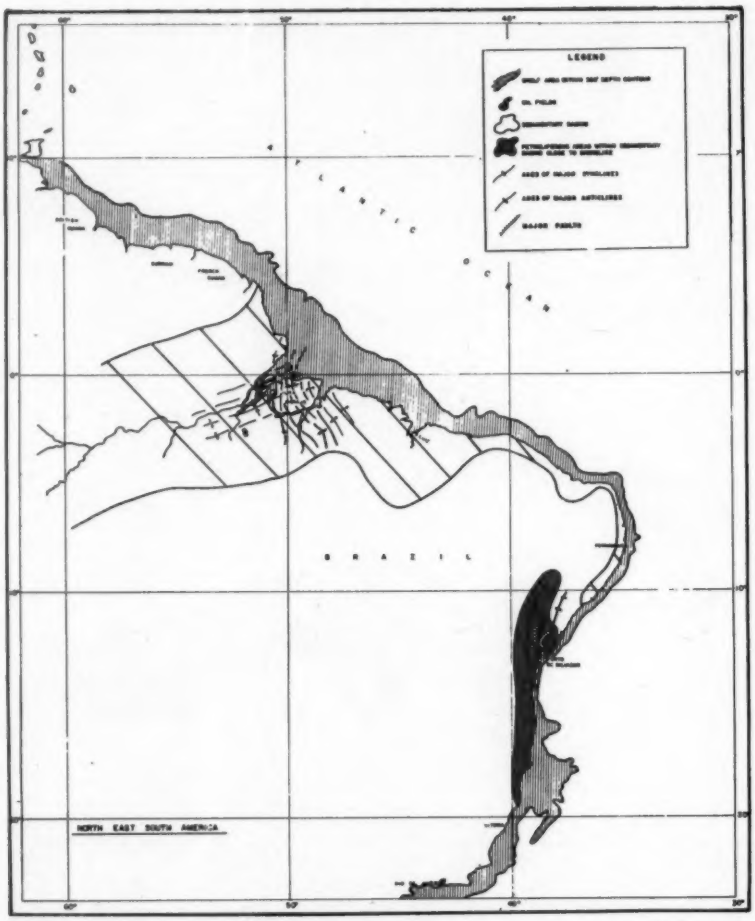


Geophysical exploration of the Amazon River Delta in Brazil indicates a deep sedimentary basin possibly underlies the Delta. Exploration drilling in the delta area may begin in the near future.

Offshore Oil Provinces . . .

(Continued from preceding page)

cular atoll—the eastern half of which could extend under the shallow sea of the continental shelf off Tuxpan. The continental shelf is wide near this area, with reef structures possibly providing shallow water foundations for platforms.

The Veracruz embayment, southwest of Veracruz, is a homocline dipping to the east toward the Gulf of Mexico and extending under the shelf. Farther south, the crest of the anticline of Rabon Grande field is seaward of the coast line and was discovered by marine seismic methods. An offshore seismic survey has located several interesting structures at sea. Some geophysical and oceanographic work has been done along the coast and on the Campeche Banks. The favorable petroliferous formations in the Yucatan Peninsula are known to extend out under the Campeche Banks.

Central America, the West Indies . . . Recently, British Honduras and other areas of Central America have been the target of intensified exploration. A large, hitherto virtually unexplored, sedimentary basin is situated in eastern Honduras and in northern Nicaragua. Geophysical work done in northeastern Honduras near the coast indicates that the basin may be continuous under the Mosquito banks—which form an almost uninterrupted bridge of shallow water between Honduras and Jamaica, B.W.I.

Oil was discovered recently in southeastern Costa Rica in a sedimentary basin believed to continue under the sea.

On the east side of the Caribbean Sea, in the Bahamas and other islands and near Florida, exploration is continually expanding.

A shelf area between an island chain lying along the north coast of Cuba and the mainland is believed to be promising as a future source of oil. Two active fields, one abandoned field, and numerous petroleum and tar seeps attest to the petroliferous nature of sediments along this part of the Cuban coast.

Off the south coast of Cuba is a wide continental shelf. Recent expansion of the oil fields in Camaguey Province has led to the conclusion that the sedimentary basin productive in the Jatibonico field deepens to the south toward the coast. Geophysical work along the coast and on the continental shelf has verified this premise.

South America . . . Some of the most prolific oil bearing zones in the entire Caribbean region are situated along the north coast of South America. Many of the petroliferous sedimentary basins in Colombia and Venezuela are located along the coast, and some are definitely known to continue beneath the continental shelf. The Gulf of Paria between Trinidad and Venezuela is presently being explored by geophysics and offshore drilling. An oil discovery was completed off Trinidad in 1955.

Productive sediments of the Lake Maracaibo Basin in western Vene-

This article represents a condensed version of the first half of a speech given before the Society of Exploration Geophysicists during their annual meeting in New Orleans October 29 through November 1. The second half of Dr. Goedicke's speech will be carried in the December issue of OFFSHORE.

THE AUTHOR

Dr. T. R. Goedicke is research geophysicist for the Offshore Exploration Group of Houston, Texas. Previously he was professor of geophysics at Texas A&M College, 1951 - 54, and mine manager for Claverny Gold Mines of northern Quebec, Canada, 1945-47.

He received his doctorate in geology and geophysics from the University of Munich, Germany, in 1954, after studying under Dr. A. Graf, inventor of the Graf-Askania gravity meter. He also holds a bachelor's degree in geology and chemistry, taken at McGill University of Montreal, Canada, in 1945, and a master's degree in geological engineering and geophysics, received in 1948 from North Carolina State College, at Raleigh.

zuela may extend beneath the western part of the Gulf of Venezuela. These fields are aligned on northeast structural trends.

In north central Venezuela the Quimare and Cerro Pelado fields might extend to the north in the Barcelona sedimentary embayment under the sea. Structural trends of the principal east Venezuelan nearshore fields—Quiriquire, Guanaco, and Pedernales—are also directed to the northeast. This, in conjunction with the east-west aligned structural trends of the fields in Trinidad, suggests excellent possibilities of oil reserves in the Gulf of Paria.

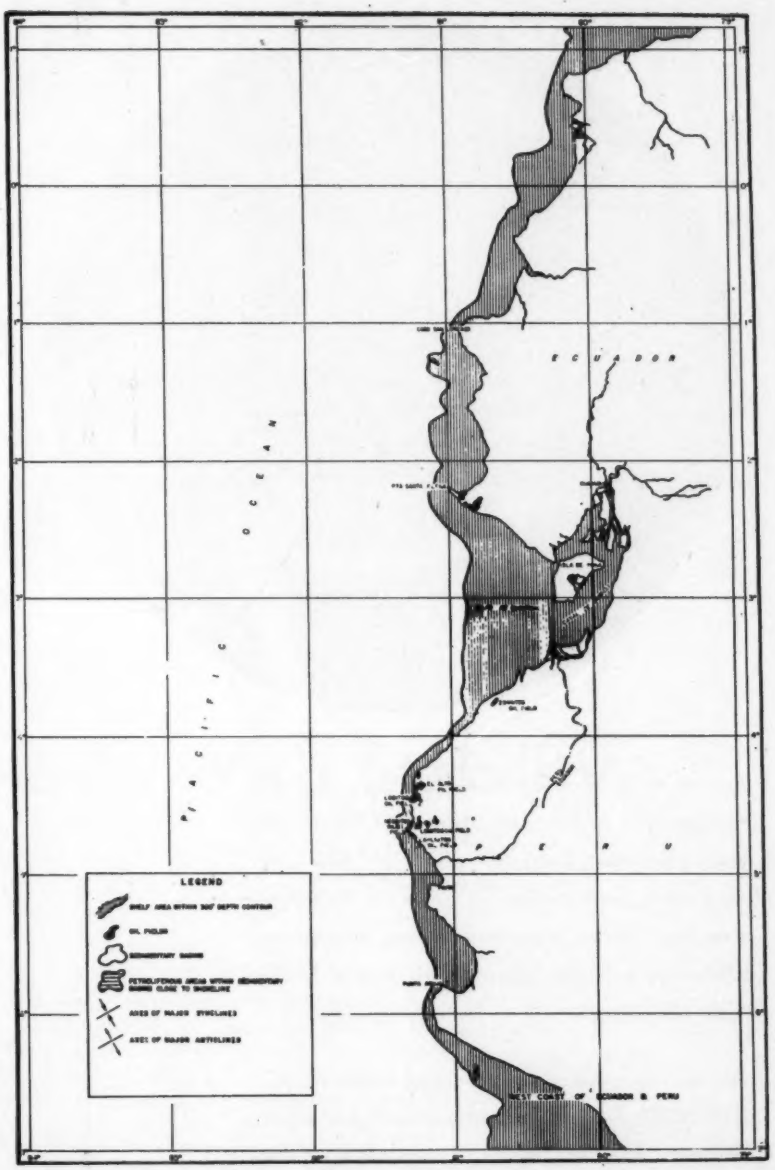
Good geological evidence, aided by some geophysical data, also suggests that the east Venezuela sedimentary basin continues on the continental shelf off the coast of British Guiana. Off the Guianas and most of Brazil is an expanse of shelf which is over 120 miles wide near the mouth of the Amazon River and narrows toward the southeast. The Amazon and some of its distributaries have been explored by marine geophysical methods, and there are indications that a deep sedimentary basin underlies the delta. The basin has a north-northeast alignment but appears to swing to the north near the coast and continue on the continental shelf. Exploratory drilling in this area may begin in the near future.

A large sedimentary basin lies adjacent to wide continental shelves off Argentina. Production from Cretaceous sands in part of the basin is obtained at the Comodoro Rivadavia field, just inland from the shore of Golfo San Jorge. This marine area may be explored in the near future to form Argentina's first marine oil province.

Also in Argentina, a recently discovered gas field at Tierra del Fuego, at the southmost tip of South America, is near a continental shelf south of the Strait of Magellan.

All of the production in Chile is in a series of fields situated in Tierra del Fuego. Six fields on a peninsula extending into the Strait of Magellan may be expanded into the shallow water of several of the bays surrounding the northern part of Tierra del Fuego.

On the west coast of South America, both Ecuador and Peru present favorable conditions for marine oil exploration. Petroleum production in Peru has for many years come from fields situated at the Pacific shore. However, the shelf in the vicinity of the Peruvian fields is rather narrow. One of the most favorable zones for future marine oil exploration in South America is the Bay of Guayaquil, between the northern Peruvian fields of Cabo Blanco and Mancora and production on the Santa Elena Peninsula in Ecuador. Structural conditions indicate the sedimentary basin, which is productive in Ecuador and Peru, may continue beneath this Gulf.



Off the West Coast of South America both Ecuador and Peru may have possibilities of offshore oil production. The Bay of Guayaquil, located between onshore oil production in both countries, appears to be the most promising area for future activity.

Mexico, again . . . Baja California, off the west coast of Mexico's main land body, has been explored only in a limited way. There are promising sedimentary basins adjacent to shallow shelf areas in the upper end of the Gulf of California and along the west coast of the peninsula. However, the upper end of the Gulf of California probably has somewhat limited oil possibilities.

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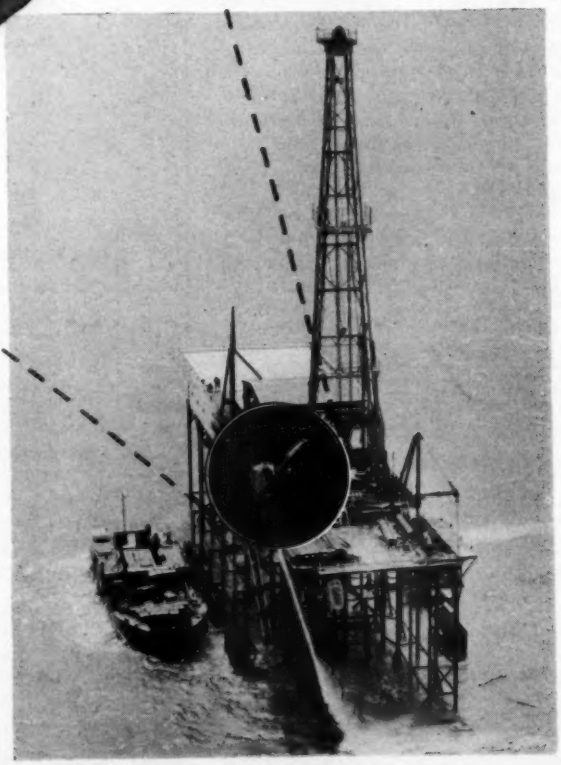

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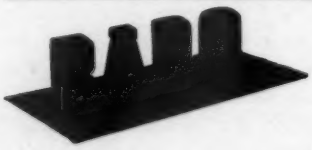

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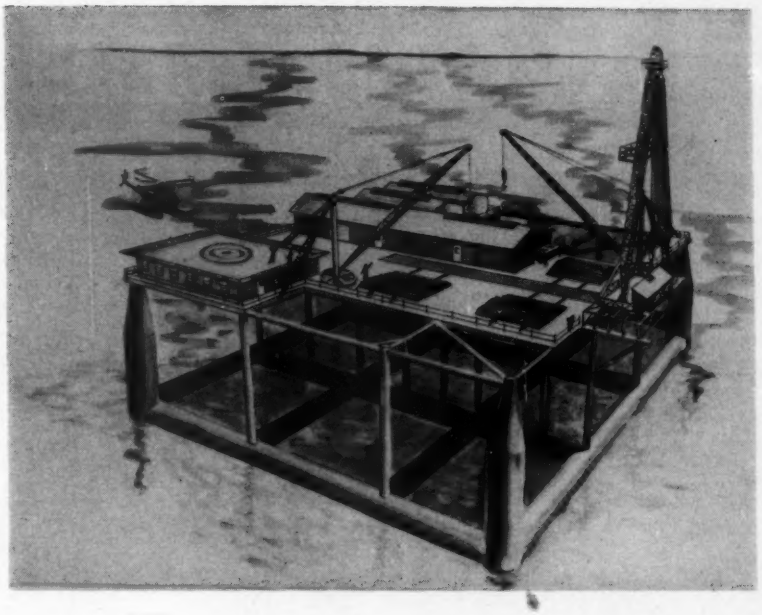

Artist's concept of KERMAC RIG 46, recently completed submersible built at Ingalls Shipbuilding Corporation, Pascagoula, Mississippi.

Kerr-McGee to operate

Submersible With Stability

Unit built for drilling contractor has a lower hull constructed of grid-work of 14.5-foot diameter pipe

A mobile unit slated to begin operations this month may prove to be the prototype of the maximum-stability submersibles of the future. The new unit, which belongs to Kerr-McGee Oil Industries, Inc., is a spectacular aggregation of gigantic pipe.

In its operating depth, the unit apparently cannot capsize.

The reason: **Kermac Rig 46** begins its career lying on its side, so to speak. Its longest dimensions are horizontal, with the bottom hull measuring 202 feet by 242 feet. The distance from hull to working deck is just 100 feet, in contrast.

As a Kerr-McGee official puts it, the submersible is like a match box lying on its broad bottom. Other units have a narrow dimension across the width of the hull, making them like a match box supported on a narrow edge.

Kerr-McGee has an almost identical unit, **Kermac Rig 47,** under construction at American Bridge Division, U.S. Steel, in Orange. The company is planning a 50-foot water depth-potential unit for construction when steel is available.

Design features . . . The barge hull is constructed in a grid pattern of tubular members 14.5 feet in diameter. The members are compartmentized, for controlling flooding during the submersion and raising.

Design of the unit eliminates moving parts usually needed for stability while making location.

Mast and drawworks are located on a cantilevered deck which extends 55 feet out from the base of the T-shaped deck. This greatly reduces the danger of damage to the wellhead structure when moving the unit. Six wells can be drilled from one drillsite by skidding the rig.

The mast serves as a 125-ton capacity boom for setting well protection structures. For this use it is moved onto the deck to allow clearance.

Equipment . . . Kerr-McGee's submersible is diesel-electric powered, using three General Motors EMD 8-567-C 875-hp diesel engines as prime movers to drive six 500-kw DC generators.

The unit has two Emsco D-1000 pumps and one Emsco B-14 pump. Two 625-hp unitized electric motors drive the Emsco ERA double drum drawworks, which has a 1,600-hp rating. The Emsco Type PJ 27½-inch rotary is independently driven by one 625-hp motor.

Statistics . . . Working deck on **Kermac Rig 46** is T-shaped, with its widest point 181 feet wide and its longest point 228′ 6″ in length. The crew quarters and engine housing building are on opposite sides of the cross-bar of the T. Drilling mast and drawworks are cantilevered out from the base of the T. The cross-bar is 67′ 4″ wide, the base 78′ in width.

Liquid mud capacity of the unit is 800 barrels. The unit has a 2,400-cubic foot bin for weight material, a 37′ x 50′ sack storage room, and additional storage space on deck for upwards of 5,000 sacks of mud in 50-sack skip buckets.

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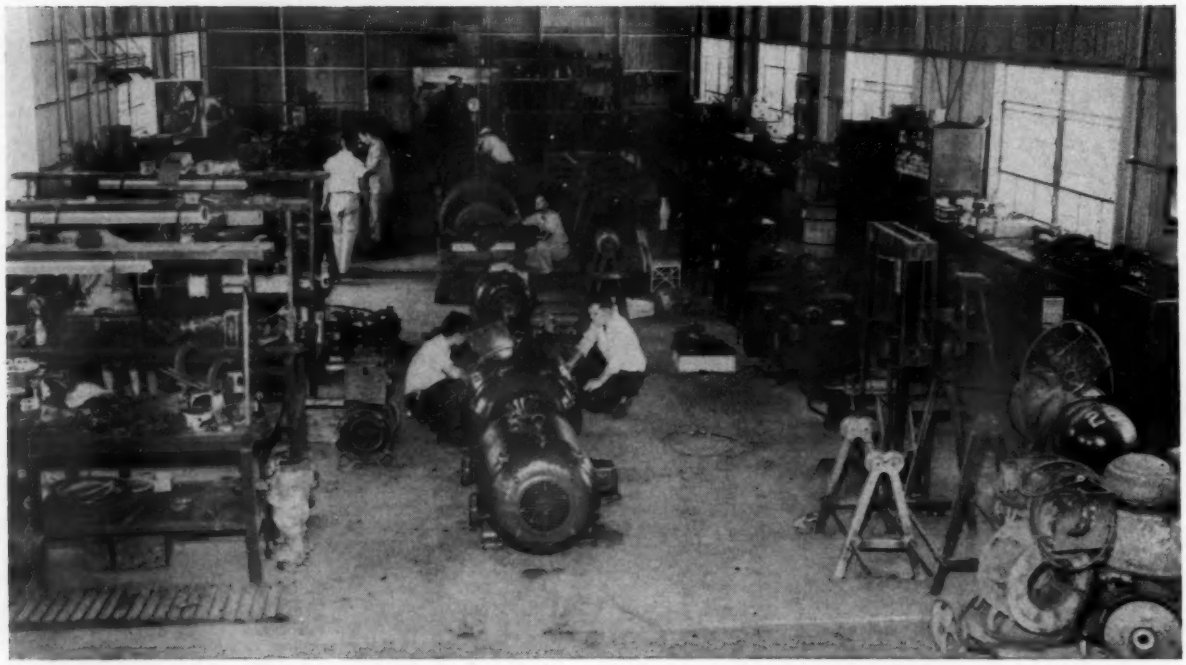

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Pact Permits Resumption of Drilling

Gulf of Mexico acreage off Louisiana is split into four zones for purposes of future leasing

Four men signed their names to an agreement in Washington, D. C., October 12, and these were the results:

1) Drilling could be resumed on over 700,000 acres in the disputed area off Louisiana.

2) About $84 million was placed in an escrow fund, payable to the winner in the Louisiana-United States tidelands dispute. The fund has possibilities of becoming a giant —neither government can touch revenues from the disputed area until the dispute is settled, and authorities generally agree that might take years.

3) A six-man board of review was created for granting future tidelands leases.

4) In Houston, one major oil company interrupted a planning conference to hear the good news. A mountain of paper work was cheerfully anticipated.

5. In New Orleans, two companies announced they would have rigs ready to start back to location October 15. Others were making plans for a quick resumption.

Coming 123 days after the U.S. Supreme Court's June 11 decision threatened a drastic curtailment of activity off Louisiana, the agreement will make possible both drilling and leasing.

Signing the agreement were, for the United States, Secretary of the Interior Fred A. Seaton and Attorney General Herbert Brownell Jr. For Louisiana, William G. Helis, chairman of the State Mineral Board, and Jack Gremillion, attorney general, signed.

The agreement cleared the way for drilling on any leased block in the tidelands off Louisiana. (There are 258 leases in the disputed area.) Before an oil company can resume drilling it must get the consent of both governments.

Leasing terms made by the government are based on dividing the submerged area off the state into four zones, setting up a different ruling for each zone. They are:

Zone 1—From the so-called Chapman Line, which in general follows the Gulf shoreline, to a line three geographic lines farther out to sea. Louisiana has all leasing rights in this zone.

Zone 2—From the seaward edge of Zone 1 to a line 10.35 miles from the Chapman Line. This area is in dispute. Blocks in it normally will not be leased until the U.S. Supreme Court settles the boundary question. However, in the event drainage exists the federal government can lease the blocks involved under its own rules. Some authorities estimate half of the leased acreage in the disputed area has been proven productive.

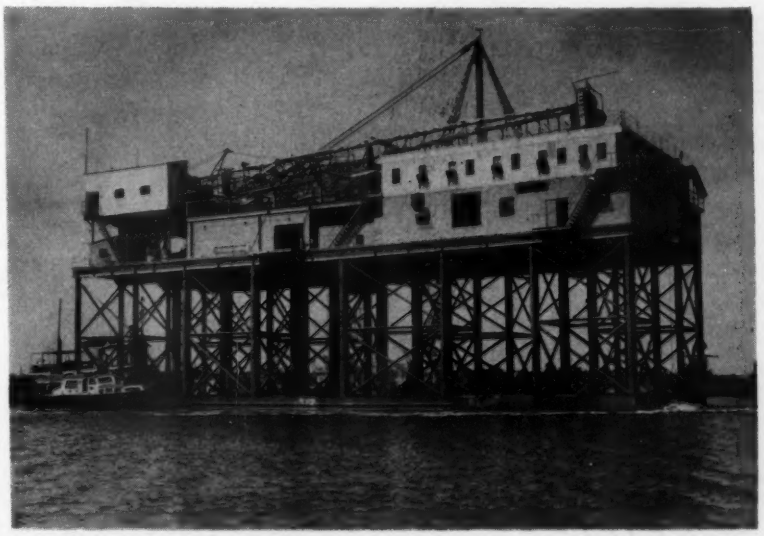
Zone 3—From the seaward edge of Zone 2 to a line 10.35 miles seaward of the Perez Line—where inland navigational rules replace international rules. This area is as much as 40 miles from land in places. In it, there will be no leasing for a year, at which time the federal government may resume leasing.

Zone 4—The area seaward of Zone 3. The United States has all leasing rights in this area.

Appointment of a joint committee to review leases was the last point cleared up before the agreement was signed. The state and the federal governments will each have three representatives on the committee. To it, the director of the Bureau of Land Management will pass information on each bid, designating whether or not he proposes to accept it. The committee will have 10 days to consider the bid, and if a majority does not vote against the director's decision it will be accepted. If the majority disagree with the decision, the director is to act in accordance with their recommendation.

The agreement also impounds both past and future revenues from the tidelands. Put into escrow with

(Continued on next page)



"St. Louis" has been completed for Ocean Drilling & Exploration Company by American Marine Corporation of New Orleans. It is the third mobile unit built by American Marine for the New Orleans drilling contracting firm. **St. Louis** is for water to 30 feet deep. can drill to 16,000 feet. The unit measures 180′ by 120′ and is 35 feet between the top of the hull and the deck section. The drilling deck is supported by 32 supporting columns which are 18″ to 30″ in diameter. First job for the **St. Louis** is for Shell Oil Company in the South Pass Area off Louisiana. A fourth unit for ODECO, the **Margaret**, is entering the final stages of construction at Alabama Dry Dock and Shipbuilding Company, Mobile, Alabama. It is for water to 65 feet.

(Continued from preceding page)

the filing of the agreement was an estimated $84 million the U.S. has received from disputed-zone leases. The funds will be divided when the boundary controversy is settled.

Louisiana will impound only future revenues, having spent earlier revenues. But collateral agreements protect United States interests, since the lessees are to guarantee to reimburse the federal government in the proper amounts as determined by the final boundary decision.

Alabama

Lease Offering Includes All Blocks In Two Areas

Reversing an earlier practice of checker-boarding lease offerings, Alabama's Department of Conservation is offering all tracts in each of two offshore areas for lease December 20.

Total offering is about 232,963 acres, located in the Mississippi Sound Area and the Northwest Gulf Area, all within 9 miles of the shoreline. The only tract not being offered is Block 74, Mississippi Sound, now under lease to The Texas Company. Texaco paid $3,298.68 for that tract in July. Twenty-six of the tracts were offered earlier.

Tracts offered December 20 are:

MISSISSIPPI SOUND AREA

Tract No.	Acreage	Tract No.	Acreage
31	1,370	56	5,165
32	3,886	57	5,165
33	1,924	58	5,156
34	1,083	59	4,720
35	31	60	4,546
43	2,429	69	2,223
44	5,059	70	5,165
45	5,162	71	5,165
46	4,639	72	5,165
47	3,655	73	5,162
55	2,372		

NORTHWEST GULF AREA

87	2,005	129	5,165
88	5,059	130	5,165
89	4,636	131	5,165
90	4,568	132	5,165
91	4,991	144	2,030
92	5,165	145	5,165
93	4,823	146	5,159
94	5,155	147	4,431
106	2,030	148	3,431
107	5,165	149	3,017
108	5,165	150	3,796
109	5,165	150-B	598
110	5,165	151	5,080
111	5,165	151-A	85
112	5,165	163	1,108
113	5,103	164	1,628
125	2,030	165	380
126	5,165	169-A	1,183
127	5,165	170	352
128	5,165	170-A	3,568

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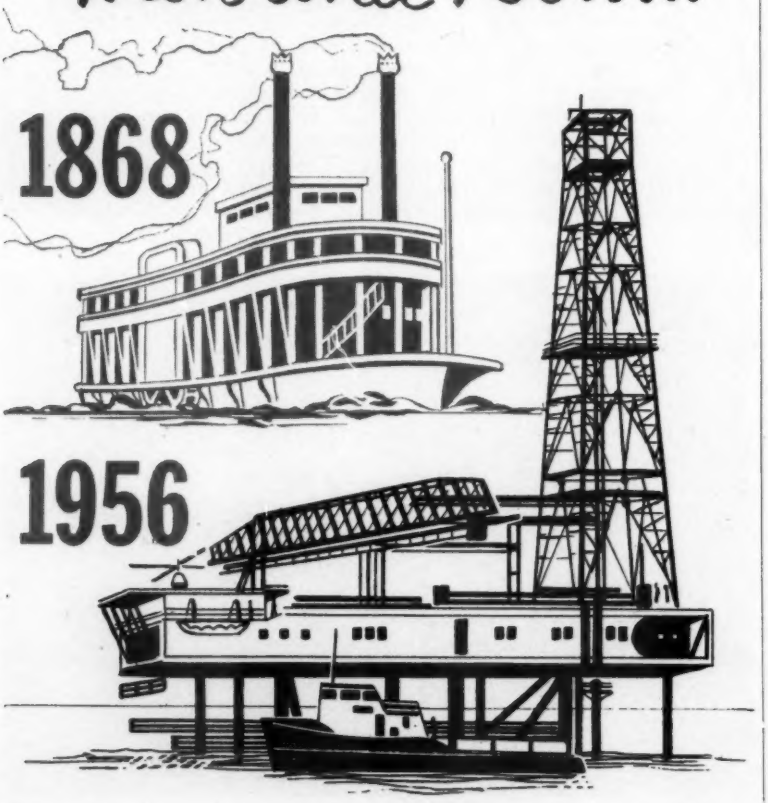

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Bahama Islands

Los Angeles Independent Acquires 5 Million Acres

Over 5 million acres of concessions in the Bahama Islands has been acquired by a Los Angeles independent, National Oil Company. A major oil company has contracted to explore the acreage, which is in the Eastern Great Bahama Bank, Exuma Cays, and Little Bahama Bank.

In recent months Gulf Oil Corporation and Standard Oil Company of California have been carrying on marine seismic studies in the Bahamas.

California

Union Oil Official Discounts Idea Of A "Phantom" Well

R. F. Bauer, operations manager of Union Oil Company of California, testified before the Assembly Interim Committee on Conservation that the idea of a "phantom" well off Coal Oil Point was "absurd" and not based on fact. Previously a diver had reported discovery of a capped oil well in the area.

Bauer said "We have not drilled an exploratory hole wherein producible oil and gas sands were encountered." Bauer, however, refused to

answer some of the committee's questions on the grounds that his answers might give away "trade secrets" to the competition.

Assemblyman Allen Miller, chairman of the committee, pointed out that "If oil companies secretly drill production wells and then lease the land as unproven, it constitutes a fraud."

Another witness before the committee said that some companies are coring before the legal 500 feet. W. J. Travers, Richfield Oil Corporation vice president, brought out the fact that several coring vessels have remained at the same location for three weeks to drill a 500-foot core hole normally drilled in just one day.

Unions Vie to Represent California Barge Crews

William Rand, operator of five coring barges on the West Coast, has consented to let the United Mine Workers Union hold an election to determine if the UMW will represent the 200 men working on the barges. However, the Sailors Union of the Pacific had previously petitioned the National Labor Relations Board that the NLRB hold a representation election among the workers.

The UWM poll on the proposal that the oil workers and deck hands join the UMW's Off-Shore Petroleum Workers Union is not sponsored by the NLRB, but is in accordance with its regulations. Previously, the SUP had charged that the five exploration companies using the vessels were illegally assisting in forming company unions.

West Coast Mobile Unit Will Be Ready This Year

The West Coast got its first glimpse of a mobile drilling unit when Offshore Constructors, Inc., moved its 100- by 200-foot barge into Long Beach Harbor for outfitting. The company, jointly owned by Bechtel Corp., Healy-Tibbitts, DeLong Corp., and Raymond Concrete Pile Company, will drill for Monterey Oil Company off Orange County, California, between Newport Beach and Huntington Beach.

Rigging up, being done under the supervision of George Bauer, who was in charge of construction of the Texas Tower radar station off the East Coast, is scheduled for completion about the middle of December.

Offshore Constructors has also taken an option on dock space in Port Hueneme Harbor for the purpose of constructing and equipping offshore drilling units. Most active offshore drilling area will be, according to James D. Bush, Jr., president of the company, the Santa Barbara Channel.

Richfield Makes Lease Bid For Outer Harbor Acres

A second bid for the right to negotiate for a drilling permit on 2,400 acres in outer Los Angeles Harbor has been received by the City Council. Richfield Oil Corporation, in its request, said that it would drill from either a fixed or floating site, or build an island. Estimates of the submerged oil reserves run upwards to 1 billion barrels.

First such request is now before the Board of Harbor Commissioners—Attorneys J. J. Arditto, Frank J. Waters and Noah Dietrich.

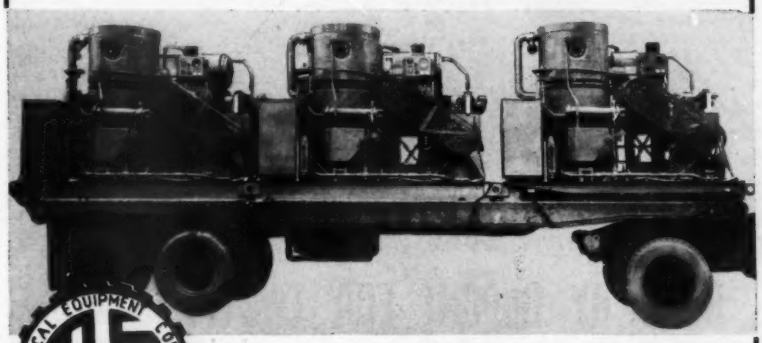
Guatemala

David C. Bintliff Interests Get Lago Izabel Concession

A concession to explore and develop 100,000 acres in the vicinity of Lago Izabel (Lake Isabel), near the Caribbean coast of Guatemala,

(Continued on next page)

"One Picture Is Worth A Thousand Words"



MECHANICAL EQUIPMENT COMPANY NEW ORLEANS, LA. U.S.A.

Instead of writing at great length about such things as dependable operation, experience, "repeat order" customers, availability of parts and service, guaranteed output, non-ferrous materials, economy of operation, compactness, etc., we will just say: The Meco Themocompression distillation units pictured above were shipped to one of our regular repeat order customers.

MECHANICAL EQUIPMENT COMPANY

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(Continued from preceding page)

has been granted David C. Bintliff Interests of Houston and a Guatemalan associate, Carlos Dorion.

The territory covered in the concession lies mainly between two portions of the mammoth lake. Access by water from the Gulf of Honduras is possible, and Bintliff indicated that he anticipates use of barge-mounted drilling equipment.

The concession was granted by the Guatemalan government to Inversiones Guatemaltecas-Americanas, S.A., the company name established by Bintliff and Dorion. Plans for immediate exploration are underway.

Louisiana

Magnolia to Operate First Offshore Microwave System

Because of crowded VHF radio conditions offshore from Morgan City, Louisiana, the Magnolia Petroleum Company is to get the first offshore microwave radio relay system.

The system will be built beginning late this fall by Radio Corporation of America, and will relay across 75 miles to provide 55 miles of overwater communications to fields in the Eugene Island Area.

The relay sequence leads from the Morgan City base to Burns Terminal, 19 miles away; then 24 miles into the Gulf to the Block 51 field. From Block 51 the system spans 23 miles to Block 126 field and on to Block 128, nine miles away.

Mexico

Barge Rig Will Seek Golden Lane Extension

A barge type rig will seek an extension of Mexico's fabulous Old Golden Lane field, scene of some of the biggest daily oil producers in history. The drilling will be done about 3½ miles from shore in Tamiahua lagoon, south of Tampico.

Scheduled are five wells, to be drilled to 3,500 feet. Most Golden Lane oil has been found above 3,000 feet.

Sharples Oil Corporation's Mexican affiliate, Sharmex, S.A., will drill the wells from a 165-foot all-steel barge. Operator is Petroleos Mexicanos. Water depth is about 10 feet at the first location.

The Golden Lane is on a semicircular reef which may be part of a circular atoll. It is the eastern half of the atoll which will be sought by the new drilling.

Sharples is a Denver, Colorado, firm.

New York

Conference May Examine Continental Shelf Rights

National rights to continental shelf riches may be investigated by an international conference, if a recommendation made to the United Nations is carried out.

After completing a six-year study of laws of the high seas and territorial seas, the International Law Commission of the UN proposed an international conference to examine most aspects of the law and draw up appropriate instruments on the subject.

Among the points to be discussed were the breadth of territorial seas and the right to explore and exploit natural resources on continental shelves.

Trinidad, B. W. I.

Increased Marine Drilling Could Result From Sale

Stepped-up offshore operations off the island of Trinidad, British West Indies, could be one result of a $176

84-Foot Crew Boat . . .

BUILT BY DUPONT FOR TWENTY GRAND

The "John T. Davis," designed and constructed by E. W. & A. P. Dupont, Inc., of Morgan City, La., for Twenty Grand Towing Company of Morgan City, has a length overall of 84 feet, a beam of 22 feet, and a draft of 6 feet.

Powered by two 6-110 GM diesel engines, supplied by the Kennedy Marine Engine Company of Biloxi, Miss., the "John T. Davis" is equipped to carry 30 oilfield personnel at maximum speed and maximum comfort and safety.

Design and construction of seaworthy crew boats is just one facet of Dupont service to the oil industry. E. W. & A. P. Dupont, Inc., have constructed more drilling and producing platforms than any other firm.

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million purchase recently made by The Texas Company.

Under the terms of an agreement by which Texaco acquired 95 percent of the stock of Trinidad Oil Company, Ltd., Texaco is to increase both exploration and production operations on Trinidad.

Refinery facilities, crude production, and onshore and offshore acreage on the island are included in the properties which Texaco acquired. Using the average activity of Trinidad Oil for the past five years as a basis, Texaco is to increase total wells drilled, footage drilled, barrels of crude produced, and amounts spent on production.

Washington, D. C.

Supreme Court Refuses U. S., Louisiana Requests

Both the United States and Louisiana early in October received setbacks to their side of the boundary dispute case before the U.S. Supreme Court.

The Court turned down a Louisiana request that the federal suit for ownership of the twilight tidelands be thrown out of the court.

The Court also turned down U.S. Attorney General Herbert Brownell's request that the case be decided without hearing Louisiana's arguments.

Instead, the Court gave the state 30 days in which to file an answer to the federal case.

Small Craft Regulations Criticized By Boat Men

Complying with proposed U.S. Coast Guard regulations could put them out of business, testified small boat operators at a Washington, D. C., meeting October 16.

The heated hearing was held by the Merchant Marine Council of the Coast Guard to give boat owners a chance to make recommendations about new regulations planned for passenger boats under 65 feet long. They did. About 160 boat owners were present, representing an estimated 3,800 boat owners from all over the nation.

They pointed out, among other things, that the cost of reworking older boats to meet the new requirements would be up to 35 percent of the original outlay.

In addition, they said, plans for boats now under construction would have to be revised and re-checked by the Coast Guard—at present undermanned to the extent that plan approval can take three to six months. To re-check plans of all boats needing alterations would mean either a larger Coast Guard or a longer delay, the boat operators said.

Public Law 519 authorizes the regulations. It was passed by Congress in May after a small public hearing held by the House and no hearing in the Senate.

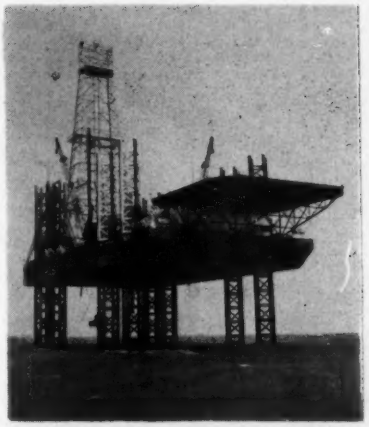
U. S. Senate Subcommittee To Probe Sulphur Transfer

A U.S. Senate group will look into the proposed transfer of a major sulphur deposit offshore from Louisiana.

Senator O'Mahoney (D-Wyo) has asked a delay in transfer of Humble Oil & Refining Company sulphur leases in the Grand Isle Area to Freeport Sulphur Company.

The Senator made the request as head of the U.S. Senate's antitrust and monopoly subcommittee, which wishes to investigate alleged "economic concentration" involved in the transaction.

In a letter to Secretary of the Interior Fred A. Seaton (who must approve the deal) O'Mahoney said that the Humble-Freeport agreement "represents the transfer by a subsidiary of probably the largest oil company in the world (Jersey Standard) to one of the two largest producers (of sulphur) in the United States . . . You are, of course, aware of the fact that the mineral leasing policy of the government, as expressed in various leasing acts, has been to encourage competition and to limit the area which any lessee may hold."



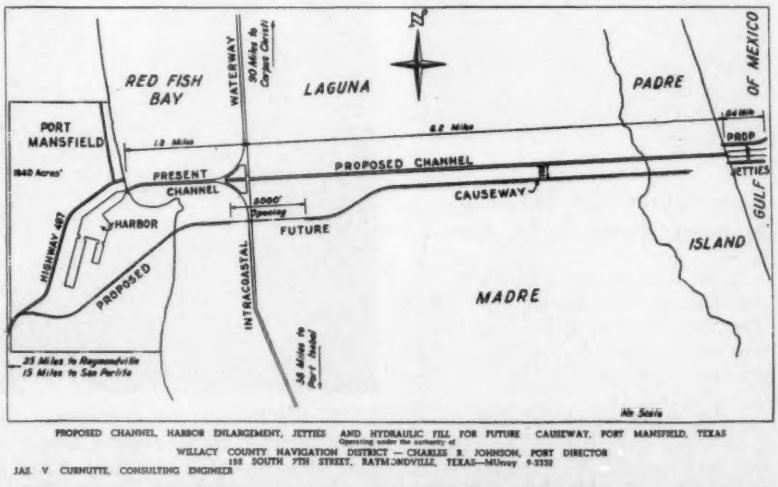
SECOND TIME OUT—The Atlantic Refining Company's second offshore test as operator was drilled recently by The Offshore Company's mobile units NO. 55. The test was a wildcat on Block 193 High Island Area, 22 miles off Galveston, Texas. Atlantic is no stranger to offshore operations, having 10 years of experience gained as a member of the CATC group.

Texas

$2.5 Million Improvement Contracts Let for Port

Contracts totalling $2.5 million have been let by the Willacy County Navigation District for improvements at Port Mansfield, Texas. The contracts cover additional harbor facilities for approximately 400 boats up to 300 feet in length, with 8,000 feet of new docks and boat stalls.

Present negotiations with the industry are also reported "to have greatly heightened" the possibility of dredging a 36-foot-deep channel for deep water shipping from the port to the Gulf of Mexico. Present channel to Port Mansfield extends only to the Intracoastal Waterway.



PROPOSED CHANNEL, HARBOR ENLARGEMENT, JETTIES AND HYDRAULIC FILL FOR FUTURE CAUSEWAY, PORT MANSFIELD, TEXAS
Operating under the authority of
WILLACY COUNTY NAVIGATION DISTRICT — CHARLES R. JOHNSON, PORT DIRECTOR
JAS. V. CUMMUTTE, CONSULTING ENGINEER

Map of a proposed channel which would link Port Mansfield, near the tip of South Texas, with the Gulf of Mexico. The port is in Willacy County.

Baudouin

Arto

The California Company Promotes Baudouin, Arto

The California Company has announced the promotions of Waldo J. Baudouin and Fred C. Arto. Baudouin was named manager, Property Tax and Insurance Division, and Arto, was elevated to manager, Income and Excise Tax Division. Both are headquartered in the company's head office in New Orleans.

An 18 year veteran with The California Company, Arto was tax accounting supervisor in New Orleans until his current promotion. He joined the firm in Houston as a mail clerk in December, 1938, and since that time has held various accounting and tax assignments.

A veteran of World War II, Arto attended the University of Texas and the University of Houston. He also took night courses in accounting at Tulane University.

Baudouin joined the company in February, 1946, and has been engaged in property tax and insurance matters for the company since his employment. Prior to his latest promotion he was property tax and insurance specialist in the New Orleans office.

Also a veteran of World War II, Baudouin attended Louisianan State University, but received his Bachelor of Laws degree in 1941 from Loyola University in New Orleans. He is a member of the Louisiana State Bar Association.

Kerr-McGee Oil Industries Promotes Parks, T. M. Kerr

T. M. Kerr, formerly executive vice president of Kerr-McGee Oil Industries, Inc., has been elected vice chairman of the board of directors, it was announced recently by Dean A. McGee, president.

G. B. Parks, formerly manager of production and drilling operations, has been elected vice president of production and drilling operations, it was also announced.

Gulf Oil Names G. O. Relf Houston Exploration Chief

George O. Relf, Jr. has been named exploration manager for the Houston Production Division of Gulf Oil Corporation. He succeeds George B. Lamb, who died recently.

Relf is a graduate of the University of Utah, with a B. S. degree in geology. He joined Gulf's Venezuelan subsidiary, Mene Grande Oil Company in 1937 as a geologist.

Entering the U. S. Navy in 1942, Relf saw combat service in the Pacific. He rejoined Mene Grande in 1947 as assistant division geologist for Eastern Venezuela.

In 1951 he was promoted to assistant chief geologist for Mene Grande and in 1955 he was transferred to Houston as division chief geologist for the Houston Production Division of Gulf Oil Corporation, the position he held up to the time of his promotion.

Schauble Announces New Geophysical Association

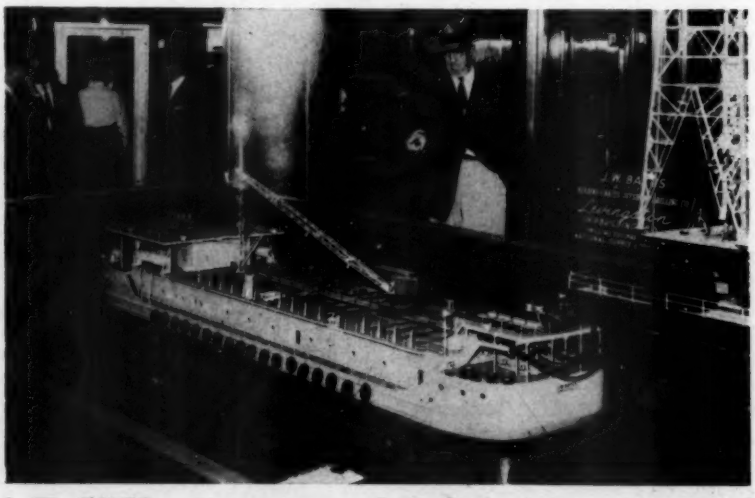
Formation of the Venezuelan Geophysical Association (Association Venezolona Geofisica) has been announced in Caracas by C. G. Schauble, chief seismologist for Sinclair Oil & Gas Company. Mr. Schauble is acting secretary of the association. Other temporary officers of the new organization are Clifford A. Wachter, chief geophysicist for Venezuelan Atlantic Refining Company, acting legal representative; and Joseph A. Keeling, geophysical supervisor for Phillips Petroleum Company, program chairman.

All are members of the Society of Exploration Geophysicists, and Schauble said the fifty-one charter members hope to become a local section of SEG as soon as the bylaws have been registered in accordance with Venezuelan law.

Llano Drilling Co. Transfers Leo Dean to Morgan City

Llano Drilling Company of Midland, Texas, has announced the transfer of Leo Dean to Morgan City, Louisiana. Dean will serve as drilling superintendent, Gulf Coast District, and be in charge of Llano's offshore operations, including the drilling tender **Clayton G. Dorn.**

Dean was formerly drilling superintendent of the West Texas-New Mexico District of Llano Drilling.



J. W. BATES, secretary-treasurer of Reading and Bates, Inc., drilling contractors of Tulsa, inspects a scale model of a drilling tender named for him. The model is currently being displayed in cities and towns of the Southwest. Levingston Shipbuilding Company built the tender, which is under contract to CATC group. The model rig is National Supply Type 130.

SEG Papers Report

Latest Geophysical Developments Offshore

Overwater oil exploration received a large share of the attention when the Society of Exploration Geophysicists (SEG) met in New Orleans October 29-November 1.

Fifteen of the 47 technical papers presented at the SEG's 26th annual meeting concerned marine geophysical exploration. One of the high points of the meeting was a field trip to observe airborne and water exploration operations in the Gulf of Mexico and the marshes of South Louisiana.

The principal address was made by Morgan J. Davis, executive vice president and director in charge of the exploration department of the Humble Oil & Refining Company, Houston.

Dr. T. R. Goedicke, of Offshore Exploration Group at Houston, pointed out two good reasons for the increasing interest in offshore oil reserves: (1) the unusually favorable producer-to-duster ratio in the Gulf of Mexico, and (2) the fact that in unexploited areas of foreign countries both exploration and drilling may actually be cheaper offshore than inland.

Principal speaker at the SEG annual meeting was Morgan J. Davis, of Humble Oil & Refining Company.

Members present at special offshore sessions heard discussions ranging from safety practices for handling explosives, to a theoretical method for identifying rock type and rigidity of bottom sediments in water-covered areas.

Highlights of papers on overwater geophysical exploration are covered in the abstracts which follow:

"Geology and Geophysics of the Gulf of Mexico"

By PAUL L. LYONS
Sinclair Oil and Gas Company,
Tulsa, Oklahoma

ABSTRACT: Integration of the presently known geology and geophysics of the Gulf of Mexico assists in the eventual solution of the many problems of tectonics, sedimentation, and basin formation which are yet unanswered. The greatest problem is the geologic section existing in the central part of the Gulf basin. This large basin may be regarded as centering at the position of a great gravity maximum. Patterns of thrusting, graben structures, volcanic vents, salt basins, and tension faults are evident. Sedimentation has been controlled mainly by the ever present Mississippi River, and sand distribution has been controlled by successive positions of the shore line and the river. A theory of origin and development was presented.

"Future Offshore Oil Provinces of the World"

By DR. T. R. GOEDICKE
Offshore Exploration Group,
Houston, Texas

ABSTRACT: Modern exploration techniques, including concentrated use of geophysics, are being applied with a great deal of success to the location and development of marine oil resources in the Gulf of Mexico. A ratio of one producer in two and one-half marine wells drilled in the Gulf has directed the attention of oil men to similar areas in the world, where large quantities of petroleum may lie beneath shallow seas. This interest is further enhanced by the fact that past experience has indicated that in undeveloped countries, exploitation of oil reserves at sea is less expensive than on land. A saving

(Continued on next page)

Geophysical Developments...

(Continued from preceding page)

per unit area is also effected in marine seismic surveys. The next decade will see rapid development of exploration for offshore oil around the world. It is the purpose of this paper to outline the geology of some continental shelf areas which are situated near petroliferous sedimentary basins.

"A Direct-Ranging Phase-Comparison Method of Radiolocation"

By JOSEPH DeLERNO, JR.
Offshore Raydist, Inc.,
New Orleans, Louisiana

ABSTRACT: The petroleum industry has been utilizing continuous wave phase comparison methods of radiolocation since 1952 for horizontal control of geophysical surveys in offshore areas. The systems presently in use involve three or more base stations on shore and location points must be plotted on or calculated in a hyperbolic grid. The relatively new Raydist configuration described utilizes only two base stations and the location points can be plotted as direct ranges from these two base station positions.

"Field Equipment, Techniques, and Interpretive Procedures of the Offshore Seismic Crew"

By H. L. GRANT
Western Geophysical Company
of America,
Shreveport, Louisiana

ABSTRACT: Offshore operations are just starting. Indeed, more oil may be found offshore than on land. Since 1945, when offshore operations began on a large scale, many improvements have been made in boats, seismic instruments, jetting techniques, and interpretive procedures. The paper made production and cost comparisons between offshore and land operations. Colored slides showed the equipment used, depicted the field operation in sequence, and showed the interpretive procedures of an offshore seismic crew.

"A Review of Pacific Coast Offshore Seismic Methods"

By CARL H. SAVIT
Western Geophysical Company
of America,
Van Nuys, California

ABSTRACT: The steep dips of California geology demand cross control at every shot point. This requirement determines almost all of the techniques used in Pacific Coast offshore work. Surveying methods have been devised to determine the exact configuration of each spread layout at the moment of detonation of the shot. Data reduction methods include dip resolution for each reflection and projection of the reflections into the plane of the cross section. This procedure also facilitates the detection and identification of the many reflected refractions encountered.

Varying water depths produce problems ranging from wave-guide resonance to multiple reflections of high order. Computing and plotting techniques are designed to identify the multiple reflections and thus to distinguish them from the desired simple reflections.

"Wave Propagation in a Liquid Layer"

By D. T. LIU
California Research Corporation,
La Habra, California

ABSTRACT: In many areas offshore, the conventional seismic record has the appearance of a series of sine waves or simple odd harmonic combinations of sine waves, with a fundamental wave length four times the water depth. Ray theory treatment ascribes this oscillatory phenomenon to guided energy traveling in the water layer. A solution of the pressure wave equation for a point source in the water layer has been obtained. It allows one to examine not only the frequency dependence with the depth, but also the transient amplitude response with depth, range, and time. It is concluded that in most actual situations, the phenomenon cannot be wholly explained by the assumed mechanism, because the theory indicates too rapid a decay of the energy.

"Multiple Reflections in Offshore Seismic Operations"

By JOHN BRUSTAD
Western Geophysical Company
of America,
Downey, California

ABSTRACT: Multiples are especially troublesome in water operations because of the high reflection coefficients of the ocean floor and of the water surface. In order to prevent the mapping of non-existent structure, it is necessary to identify multiple reflections. It can be shown, using some simplifying assumptions, that the apparent angle of dip of the nth multiple is equal to the angle of the primary reflector plus n times the angle of the ocean bottom. Through the use of charts, then, it is possible to deduce the theoretical move-out of any multiple. This knowledge, together with that of the

SEG conventioneers got a first-hand look at marine geophysical activities by taking both aerial and water-borne field trips. Lorac Service Corporation's M/V LORAC, above, was present for transportation.

XUM

reflection time and amplitude, aids materially in identifying multiples. In one particular case some very unusual multiples have been observed from what is believed to be a 200 feet thick layer of mud covering a hard ocean bottom. The many multiples occurring were identified by their amplitudes, times and move-outs.

"Geophysical and Geological Investigation of Sea Mounds in the Gulf of Mexico"

By W. E. ALLEN, L. STANLEY, and T. F. VINING
The Superior Oil Company, Houston, Texas

ABSTRACT: The results of a geophysical-geological expedition to the edge of the continental shelf in the Gulf of Mexico to study sea-mounds are reported. The purpose of the expedition was to determine the origin and nature of the large sea-mounds found on the edge of the shelf. Data taken included: gravity measurements, cores, depth/temperature measurements, and bottom topography. The mound investigated, while not as large as other known highs, is considered representative of the smaller mounds and is similar, geomorphically, to the larger mounds. The maximum gravity anomaly with associated rim minima developed around the mound suggests a large shallow cap rock salt dome. Therefore, from the analysis of the data taken, it is concluded that this mound owes its existence, at least in part, to a salt dome intrusion and this may well account for the origin of many more sea-mounds in the Texas-Louisiana area.

"A Refraction Seismograph Procedure for Delineating Salt Domes"

By W. LEE MOORE
Petty Geophysical Engineering Co., San Antonio, Texas

ABSTRACT: A method is described whereby the depth and configuration of a salt dome can be determined by means of a network of surface-to-surface refraction profiles. A procedure using aplanatic curves in outlining the flanks of salt domes is also described. Typical records, charts and cross-sections illustrate the use of the methods in outlining an offshore salt dome.

"Recommended Practices in the Handling and Use of Seismic Explosives"

By T. L. McCORKLE
Technical Service Section, E. I. du Pont de Nemours & Co., Wilmington, Delaware

ABSTRACT: A discussion of safety in the handling and use of seismic explosives. Attention was also given, however, to techniques which will minimize the possibility of unsatisfactory results. The presentation was based on color slides taken with land, marsh, and water work crews.

"Factors Affecting the Accuracy of Phase Comparison Positioning Systems"

By B. W. KOEPPEL
Lorac Service Corporation, Tulsa, Oklahoma

ABSTRACT: The factors affecting the accuracy of phase comparison positioning systems are: first, instrumentation, second, system geometry, and third, propagation. The relative magnitude of the errors attributable to these factors was discussed and examples of field tests were shown.

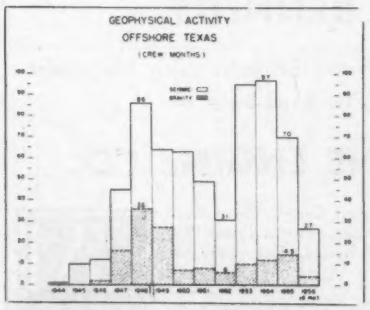
"Analysis of Offshore Domes from Gravity Surveys"

By L. L. NETTLETON
Gravity Meter Exploration Co., Houston, Texas

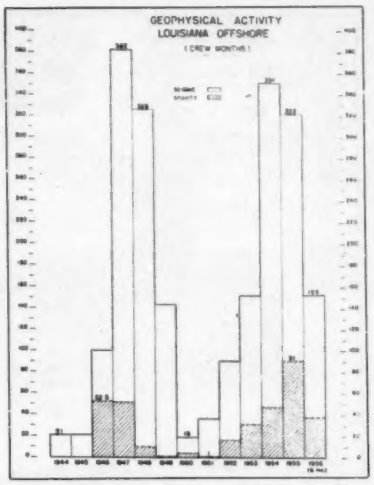
ABSTRACT: This paper reviews the effectiveness of gravity surveys for determining shape and depth of offshore salt domes and is illustrated with gravity maps and cross-sections from two examples.

The San Luis Pass dome, about 10 miles offshore and between Freeport and Galveston, was covered with a very detailed gravity survey of some 130 stations for the determination of the location, depth and thickness of caprock. This was done in advance of drilling to evaluate the dome as a sulphur prospect. The gravity survey and its interpretation indicated a shallow dome and outlined a large area with moderate thickness of caprock. Subsequent drilling confirmed the geophysical indications quite satisfactorily.

A gravity survey of some 50 stations was made over the large topographic mound "Way", about 120 miles southeasterly from Galveston and near the edge of the Continental Shelf. The topography has relief of nearly 400 feet with a small area reaching to a minimum depth of about 60 feet.



Seismograph and gravimeter crew-months by years in the Texas portion of the Gulf of Mexico, as reported at the SEG convention.



Seismograph and gravimeter crew-months by years in the Louisiana portion of the Gulf of Mexico, as reported at the SEG convention.

"On A Theoretical Method for Identifying Rock-Type and Obtaining in Situ the Shear Modulus (Rigidity) of Bottom Sediments"

By E. STRICK
Shell Development Company, Houston, Texas

ABSTRACT: If a seismic source such as is used in seismic exploration

(Continued on next page)

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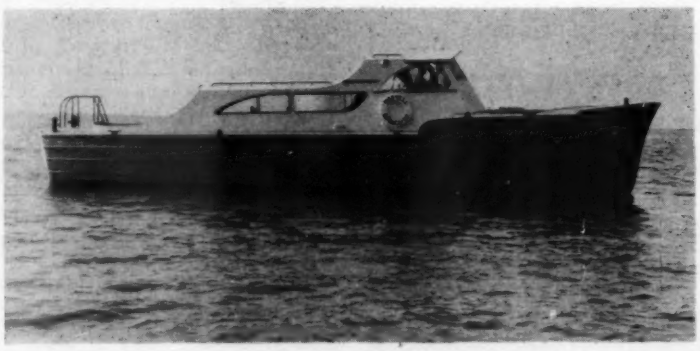

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(Continued from preceding page)

is utilized to excite the bottom sediments in water-covered areas, then in addition to the widely used critically refracted P-wave and the direct and reflected arrivals, there also can exist two interface waves, namely the Stoneley wave and the Pseudo-Rayleigh wave.

For soft bottoms which have a shear velocity less than that of the water velocity, one can determine the shear velocity and, therefore, the rigidity of the sediment from the arrival time of the Stoneley wave by use of Stoneley wave velocity charts. For hard bottoms which have a shear velocity which is greater than the water velocity, the Pseudo-Rayleigh interface wave can be used to determine the rotational velocity.

Although hydrophone detectors can be used, the use of a vertical particle velocity detector can, for elastic systems, enable a determination of the rigidity to be made over a ratio-range of ten-thousand to one by means of these interface waves whose amplitude will, for common rock types, always be constant within a factor or two.

"A Model Study of Bubble Dynamics in Offshore Seismic Exploration"

By W. C. KNUDSEN
California Research Corporation,
La Habra, California

ABSTRACT: A model study of the behavior of an explosion bubble was carried out to determine the effects of different boundary conditions. The motion of the bubble was recorded with a high-speed camera. A description of the apparatus was given, and the high-speed films shown.

"Bill" Sammis Made Manager By Pipe Distributing Firm

W. A. "Bill" Sammis, Jr. is now South Texas district manager for Tex-Tube, Inc., of Houston.

Mr. Sammis is opening a district sales office for Tex-Tube at 335 New Moore Building in San Antonio November 1.

A 1946 graduate of Texas A & M College, Mr. Sammis had purchasing and stores experience with the Sheffield Steel Corp. and was salesman with the Youngstown Sheet and Tube Company in Houston and San Antonio.

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Map showing possible future marine oil provinces, by water depth, of the Gulf of Mexico and Caribbean is approximately 44 inches by 28 inches. Contour depths from 0-10 fathoms, 10-20 fathoms, 20-30 fathoms, 30-100 fathoms are shown in graduated shades of blue.

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GM 200 KW GENERATORS

(3) These engines have been completely overhauled by the U. S. Navy and are complete in every detail. Units complete with deadfront type control panel for generator; motor-driven air compressor; air tank; and all accessories. ENGINE: Model 8-268A GM 6½x7—8 cyl.—1200 RPM—air starting. GENERATOR. 200 KW—250 KVA—440/3/60—1200 RPM—Westinghouse—with direct connected exciter.

100 KW SUPERIORS

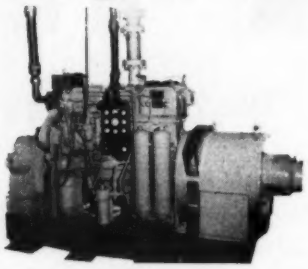
(2) 120/240 volt DC generator sets.

800 KW G.M. 12-567

(1) 12-567 GM—800 KW—550 volts DC with GE generator and 10 KW top-mounted exciter.

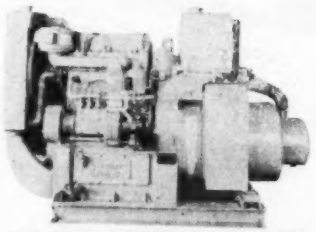
30 KW D.C. GENERATOR

30 KW—120 volt DC—Sheppard model 12—6 cyl.—4 x 6—50 HP at 1200 RPM—continuous full load rating—radiator cooled—built to ABS & AIEE #45—class A insulation—electric starting. GENERATOR: 30 KW—120 volts DC—250 amps—shunt wound—40° rise.



MATCHED PAIR 60 KW GENERATORS

440/3/60/1200—with deadfront switchgear. Purchased from Cornell University where they were used as Navy test installation. With only about 75 hours use, they represent practically new equipment. ENGINES: Cummins, supercharged model HSG-AD—6 cyl.—heat exchanger cooled—fully alarmed—shock mounted. GENERATORS: Delco model 13916—60 KW—440/3/50/1200/96.2 amps.—also 20 KW Delco generator 120 volts DC on other end. Units complete with mufflers, supply of new spares, and deadfront panel for both with all parallel features.



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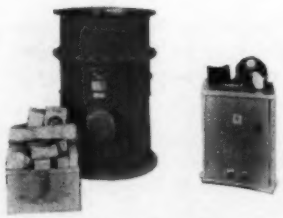
300 KW BALDWIN GENERATORS

(2) 120/240 volt DC Baldwin DeLaVergne Model V-O. ENGINES: 448 HP—400 RPM—6 cyl.—12¾" bore—15½" stroke. GENERATORS: Westinghouse 300 KW—120/240 volts DC—1250 amps.—400 RPM—40° C rise—7.02 shunt field amps. ACCESSORIES: lube oil coolers; jacket water coolers; exhaust muffler; vibration isolators; commercial filter; edge-wound Purolator strainers. DIMENSIONS: 222" long—76" wide—103" high.



AXIAL FLOW FANS

4000 CFM—A4D1W5—std. stock #512389; mfg. by B. F. Sturtevant Co. MOTOR: Stab. shunt 4/1.7 HP 115 VDC—32/15 amps—1750/1310 RPM—type SK—Frame 43F—waterproof. STARTER: Size 2 class 6311-S21—115 VDC—start & stop button on door. RHEOSTAT: Style #1312859—130 ohms—1.9/0.9—250 volts. DIMENSIONS: ID 22⅛" length 35-5/8"—bolt circle 24½". FANS COMPLETE WITH ABS SPARES FOR MOTOR & CONTROL.

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8000 CFM—Buffalo Forge Co. A8D1W6—1710/1150 RPM—6 HP 115 VDC—27¼" ID—37¾" long.

12000 CFM—American Blower A12D1W5—1710/1350 RPM—10 HP 115 VDC—29¼" ID—45-7/8" long.

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Type 3HL, Worthington 15 HP, 3 phase, 60 cycle, 400 GPM—TDH 120'—EXPLOSION-PROOF MOTORS.

Worthington 250 GPM pump, 40' head, 7.5 HP, 3 phase 60 cycle EXPLOSION-PROOF MOTOR. All controls—pumps all bronze.

Worthington 500 GPM 150' head bronze pump driven by 30 HP 440/3/60 1750 RPM motor.

(2) Union all-bronze pumps—250 GPM @ 150' head. 20 HP 3 phase 60 cycle motors.

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(3) Model A Ingersoll-Rand—150 GPM @ 224' head—3425 RPM—type 1½RVH-20. MOTOR: GE 20 HP—440/3/60—3425 RPM—frame 326. PUMPS: All bronze—2½" suction—1-1/2" discharge. Will reconnect units for 220 volts.

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IN JUST 105 days this mobile unit drilled 30,-394 feet of hole at locations more than 50 miles off the Texas coast. This is the story of how . . .

MR. GUS Sets A Record

By ARTHUR I. COYLE
Technical Editor

Just 105 days after leaving the vicinity of Sabine Pass, C. G. Glasscock Drilling Company's **Mr. Gus** had drilled a total of 30,394 feet of hole. The Corpus Christi, Texas, drilling contractor's mobile unit made the impressive footage total on two wildcats—one of them the farthest-from-shore prospector yet drilled in the Gulf of Mexico.

Mr. Gus was drilling on the Shell-Continental "Neptune" lease block, which covers 103,680 acres and was bought by Shell Oil Company from the United States for $5.5 million in 1955.

First well drilled by Glasscock's unit was Shell-Continental No. A-1 Federal Block A-104, 63 miles southeast of Galveston in Block A-104. This block is located on the southern edge of the Shell-Continental acreage, and the test holds the distance-from-shore record at present.

On the Block A-104 test **Mr. Gus** drilled to 13,374 feet, using 20 bits. Strings of pipe set: 48"—228'; 30"—285'; 20" — 500'; 13⅜" — 3,495'; 9⅝"—7,152'; and seven-inch liner—9,215 feet.

Several days were lost fighting lost circulation. Eight days were consumed by electric logging. Average penetration of the piling was 61'4 inches. Water depth was 93 feet.

After completing this test **Mr. Gus** moved approximately nine miles northwest to Federal Block A-72, to drill the No. 1 test in that block. Near the north edge of the Shell-Conoco lease acreage, this test was 56 miles from land.

Twenty-one bits were used to drill the Block A-72 wildcat to total depth of 17,020 feet.

Strings of pipe set: 48"—228'; 30" 285'; 20" — 504'; 13⅜" — 1,438'; 9⅝"—5,838'; and 7" liner—11,925 feet.

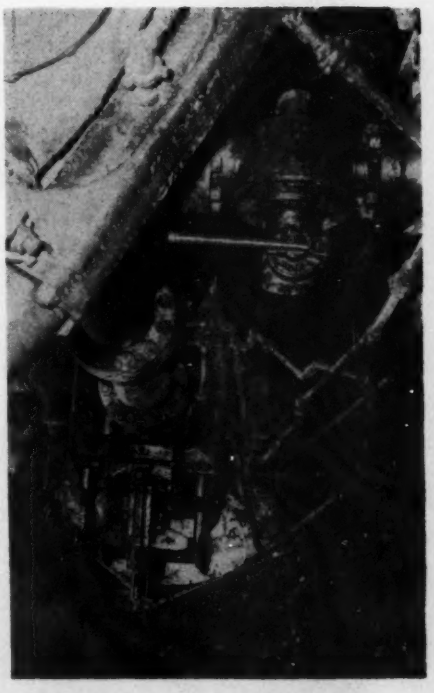
Pump pressures used were 2,300 psi above the 7-inch liner and 2,600-2,800 psi below the liner. Mud used was an oil emulsion lime base Driscose type. Water loss was controlled to 2.5 cc API.

On this location, in 83 feet of water, average penetration of piling was 37' 3 inches.

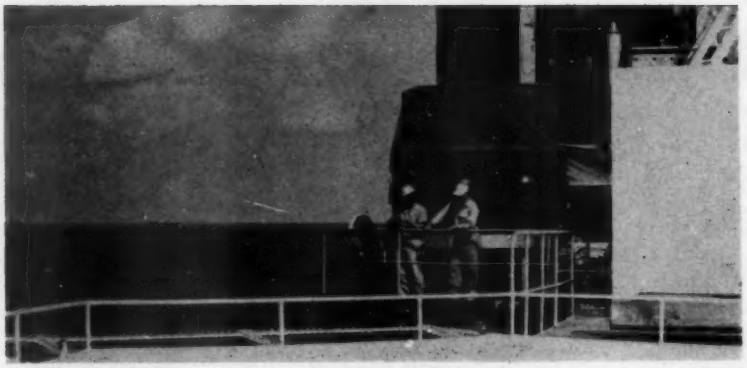
Mr. Gus was elevated to place its working deck 57 feet above water in each case.

Shell Oil Company toolpushers on the job were M. C. Birran and Jack

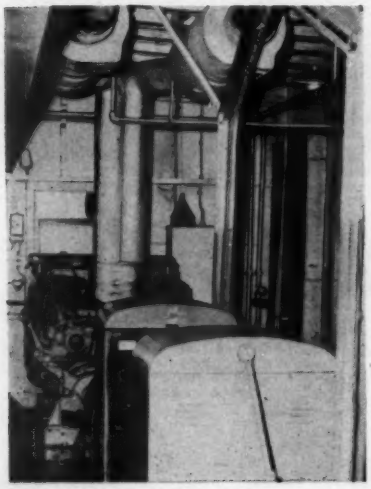
(Continued on next page)



MR. GUS used four type QRC blowout preventers by Cameron Iron Works, Inc., Houston, plus a type GK preventer by Hydril Company.

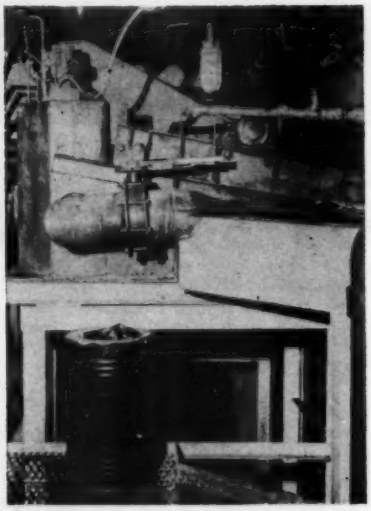


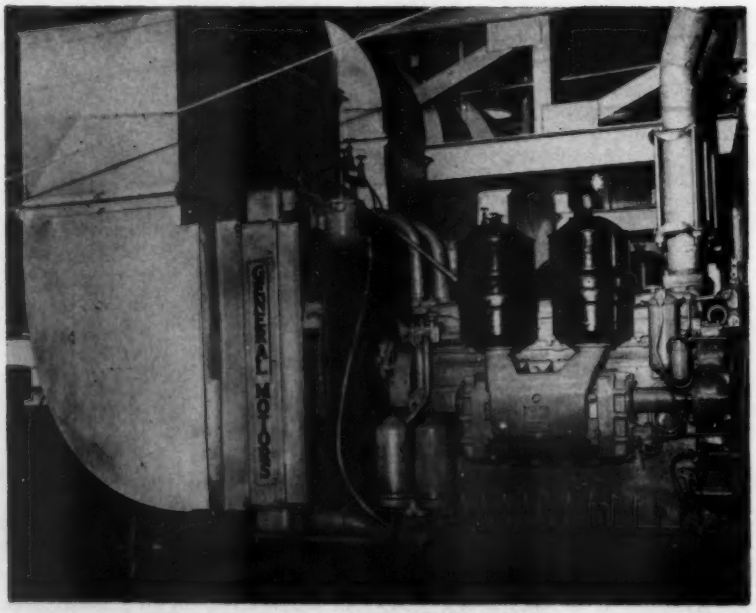
Ship passing MR. GUS out at sea, 56 miles offshore from Galveston, Texas.



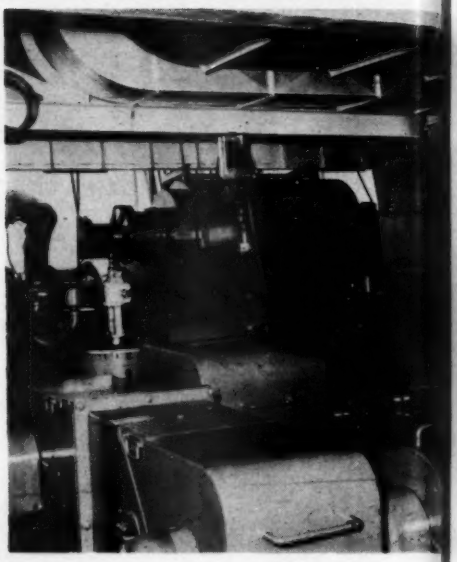
Two of four 150-kw generating sets supplied by Stewart & Stevenson Services, Inc., of Houston, Texas.

Shale-shaker by Link-Belt Company.





One of 16 General Motors 6-71 diesel engines which serve as prime movers for drawworks and pumps on the mobile unit MR. GUS.



Rear view of the National 130 drawworks used on C. G. Glasscock's MR. GUS.

(Continued from preceding page)

Bullard; Glasscock toolpushers were T. A. Myers and Jeff Huddleston.

Drilling equipment . . . The upper deck of the drilling section of **Mr. Gus** contains a pipe rack and an 18-ton Lorain crane, from Head and Guild of Houston, on the forward end. Between the two forward pilings and the two forward access tubes is the Lee C. Moore 1.1 million pound derrick and substructure.

The string-up group consists of a National Supply Company Ideal 525-ton crown block, an Ideal 475-ton traveling block, and an Ideal 475-ton hook. The rig has an Ideal type N-815 400-ton capacity swivel.

The 5½-inch kelly joint is by Baash-Ross Tool Company. Rotary

(Continued on page 49)

Maintenance crew, left to right: Back row, Bob Jernigan, H. C. Carroll, C. R. Mozley and A. J. Bradford. In the front row are Ed Terrill, foreman, and Earl Ives, crane operator.

On board "Mr. Gus"

Head and Guild are proud to have furnished a part of the equipment on board C. G. Glasscock Drilling Company's record-breaking deep-water drilling giant, "Mr. Gus."

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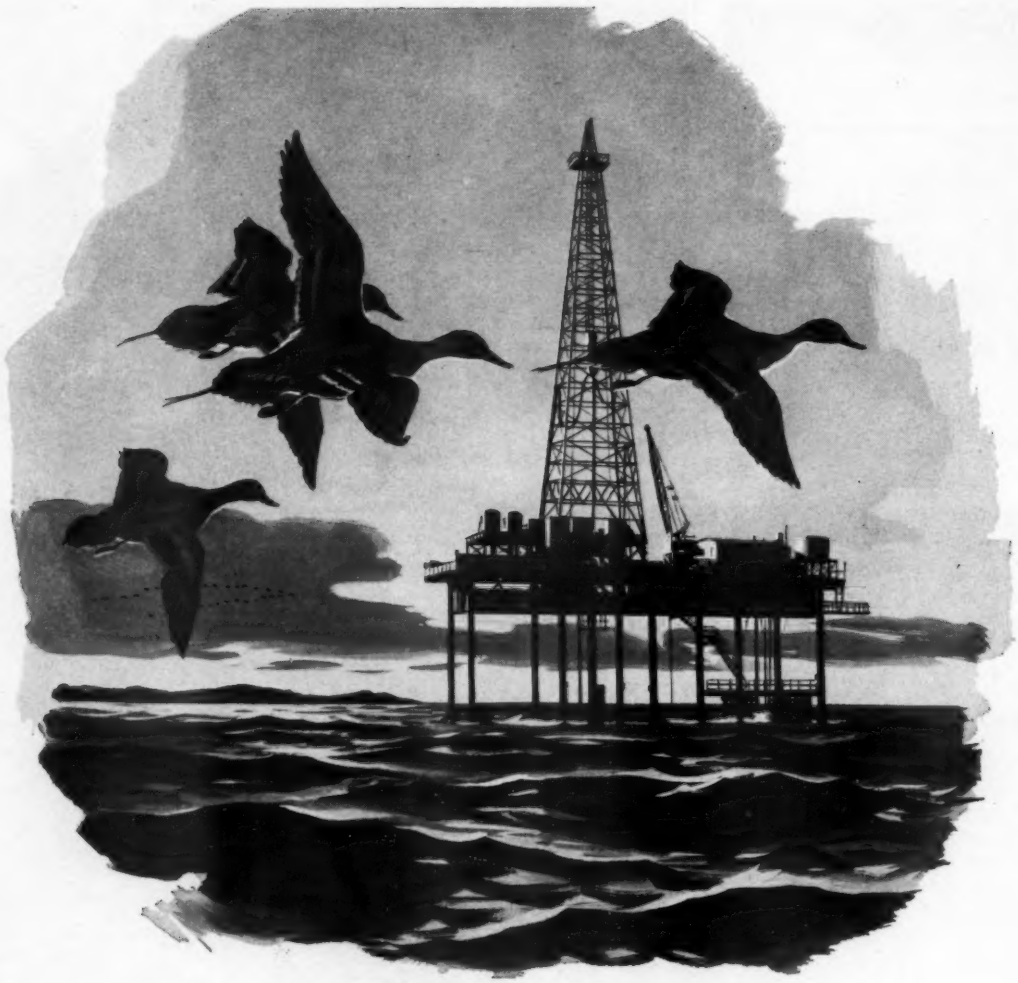

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H. D. Bates, helicopter pilot for Glasscock, leaves MR. GUS with passengers for the 56-mile trip over water to Galveston.

MR. GUS Sets A Record . . .

(Continued from page 46)

is a 27½-inch Ideal. The Ideal 130 drawworks has spinning and breakout catheads.

Stewart & Stevenson Services, Inc., of Houston, supplied the sixteen General Motors 6-71 diesels which serve as prime movers for drawworks and pumps. Horsepower of each is 165 hp.

Three E-500 Ideal mud pumps are located below deck and under the prime movers. Mud valves are all by Cameron Iron Works.

The electric power system, supplied by Stewart & Stevenson also, consists of four 150-kw generators, each driven by General Motors 6-71 twins. Rig lights were supplied by Hutchison Manufacturing Company, Houston.

There are five blowout preventers, including four type QRC (Quick Ram Change) by Cameron and one type GK by Hydril Company.

(Continued on next page)

Day drilling crew, left to right: Dick Rushton, floorman; A. L. Turnipseed, motorman; R. E. Knight, sample catcher; R. E. Smith, floorman; F. H. Booth, derrickman; and W. M. Chism, driller.

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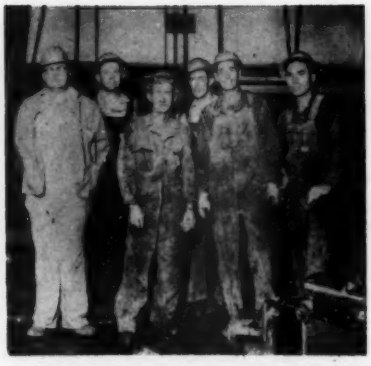
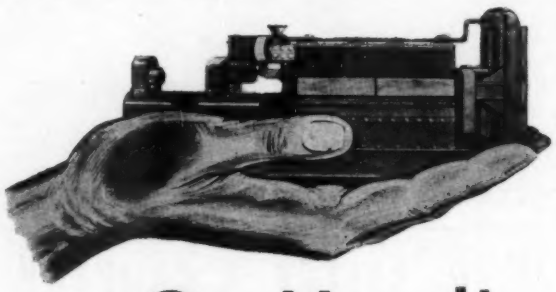
On the helicopter deck, left to right: M. C. Birran, toolpusher for Shell Oil Company; T. A. Myers, toolpusher for C. G. Glasscock; and M. A. Westbrook, logging engineer for Shell Oil Company.



Night drilling crew, left to right: Bill Coffey, driller; C. J. Zinke, derrickman; W. L. Fireboy, motorman; Dick McKee, sample catcher; L. H. Garner, pipe racker; and L. L. Schmidt, floorman.



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MR. GUS Sets A Record . . .

(Continued from preceding page)

A Schlumberger Well Surveying Corporation electric logging unit is located on deck over the prime movers.

The Halliburton Oil Well Cementing Company cementing unit is on the lower deck and is aft of the pump room. The Halliburton unit is powered by a General Motors 6-71 twin and a 4-cylinder General Motors 4-71.

How the unit works . . . Glasscock's **Mr. Gus** weighs over 4,000 tons and has an upper (drilling) section and a lower (submergible foundation) section. When the unit is being towed the upper section rides piggy back on the lower section.

On arrival at location the eight 5-foot diameter pilings on **Mr. Gus** are lowered to bottom. The upper section is then raised to drilling depth by hydraulic slip-type walking jacks on four of the 5-foot pilings. This gives maximum penetration of the pilings quickly. After the upper section is at drilling depth the other four pilings are forced downward by the hydraulic jacks for maximum penetration. The upper platform is next levelled off.

The ballast tanks of the lower section are flooded after the upper deck is at drilling position. The lower section settles slowly down the pilings to the bottom. When the lower section is on bottom, weight is applied to the section by the hydraulic jacks on the four 5-foot access tubes which are the connecting members between the upper and lower sections.

News from the
SHIPYARDS

New Submersible

Mobile Offshore Company Lets Contract for Unit

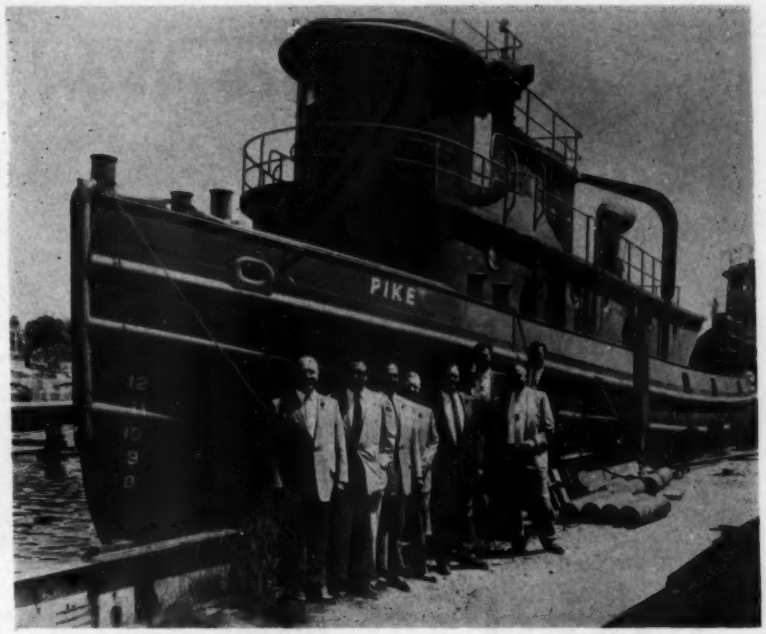
The newly organized Mobile Offshore Company, of Houston, Texas, has let a multi-million dollar contract with The Ingalls Shipbuilding Corporation of Pascagoula, Miss., for a mobile unit to drill in water up to 70 feet deep.

The unit was designed by Robert H. Macy, naval architect at Pascagoula, and measures 201′ x 203′ and is 110′ between hull and deck. The hull is made up of a grid of members with square cross sections. There are no seacocks or piping in the hull, and ballast will be pumped in from above.

Organizers and officers of the Mobile Offshore Company are Bowman Thomas, president and director; Herman Brown, director; Harold Decker, vice president and director; W. J. Goldston, vice president and director; and Foster Parker, secretary. R. L. Meadows will be field superintendent.

Thomas was president of Thomas & Meadows Drilling Company, which will be absorbed by Mobile Offshore. He was formerly chief petroleum engineer for Humble Oil & Refining Company, in charge of marine equipment and drilling equipment.

(Continued on page 53)



A PORT ARTHUR CHRISTENING of the tug boat PIKE brought G & H Towing Company's fleet to 21 boats. Pictured left to right at the ceremonies are R. J. Wales, G & H director; E. W. McCarthy, president of Gulfport Shipbuilding Corp., at Port Arthur; Capt. John E. Leech, G & H marine director; J. Newton Rayzor, G & H board chairman; W. R. Orange, G & H port manager at Galveston; W. D. Haden II, of the G & H safety department; Erie D. Harlan, G & H comptroller and administrator; Capt. Robert M. Brower, G & H safety director; and J. T. Westmoreland, G & H offshore oil industry representative.

G & H Christens "Pike"

Addition of powerful new 105-foot, all-steel boat brings towing company fleet to 21 tugs

The **Pike**, a powerful 1,700 horsepower, diesel powered, all-steel tug boat, custom built for G & H Towing Company, Inc., by Gulfport Shipbuilding Corporation of Port Arthur, Texas, has been christened by G & H officials at Port Arthur.

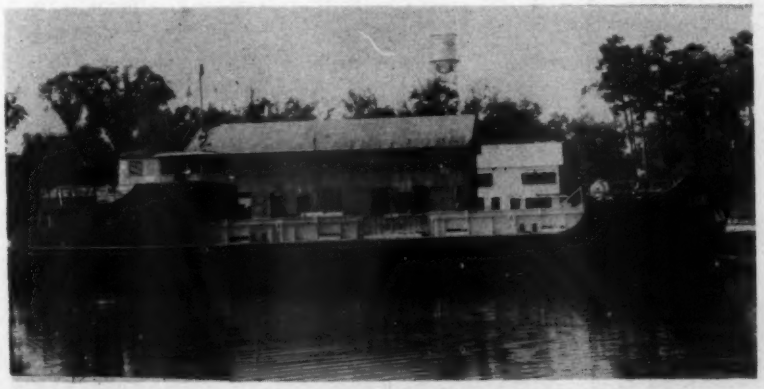
Designed for extra heavy-duty requirements of offshore oil field and deep sea service, **Pike** is 105 feet long, has a beam of 27 feet, and a draft of 14 feet when fully loaded with fuel, water, and stores.

Fitted with modern navigational and safety equipment, including radar, gyrocompass and iron-mike, ship-to-shore radio, fathometer, and a modern and efficient fire protection system, the **Pike** will normally carry a crew of 11 but can sleep 15. The handsomely finished quarters are air-conditioned.

Pike was expected to be ready to join the G & H fleet in the latter part of October.

G & H Towing Company, operating from the ports of Houston, Galveston, and Corpus Christi, Texas, has one of the most modern diesel powered tug fleets operating anywhere in the world. A sister ship to the **Pike**, the **Ling**, is sched-

(Continued on page 53)



M/V LION, built by Equitable Equipment Company, Inc., of New Orleans, is the latest addition to the fleet of Shelf Equipment, Inc., of New Orleans. The M/V LION is designed to carry upwards of 500 tons of cargo. Dimensions are 134′ 6″ in length, 31′ 6″ in beam, and 9′ 3″ in depth.

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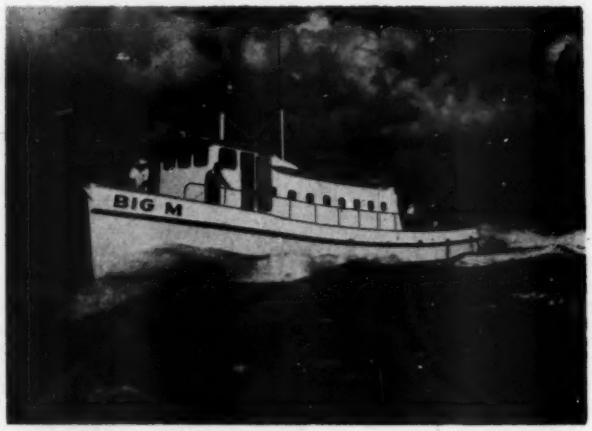

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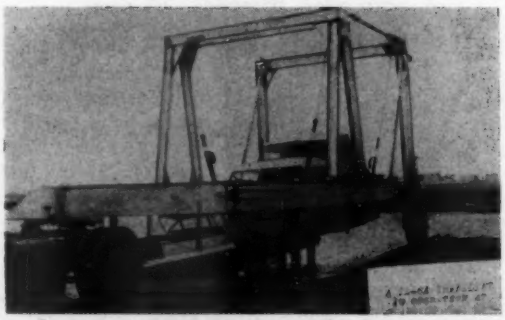

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G & H Christens . . .

(Continued from page 51)

uled to be launched late in the year to bring the G & H harbor and offshore fleet to 22 vessels.

The new boats, G & H officials believe, will round out their fleet to meet the requirements of any harbor tidelands, deep sea salvage, or foreign towing anywhere.

The **Pike** is built to exacting standards of the American Bureau of Shipping, the United States Coast Guard, and the United States Public Health Service.

New Submersible . . .

(Continued from page 51)

Brown is also president of Brown & Root, of Houston. Decker was formerly president of Houston Oil Company and at present is also president of Highland Oil Company.

Goldston is president of Goldston Oil Corporation.

Foster was formerly treasurer of Houston Oil Company, and is now Comptroller for Brown & Root.

Headquarters of the new company is the San Jacinto Building, in Houston.

Navigator's Delight

New Belock Motor Vessel Tests Marine Instruments

A sleek 93-foot motor vessel recently put into operation by Belock Instrument Corporation would warm the heart of almost any navigator. The vessel is named the **Navigator,** and will be used for extensive testing and demonstration of Belock marine instruments.

Included in the navigational equipment on **Navigator** is Belock's new "Dead Reckoning Analyzer," which automatically and continuously provides direct readings of ship's latitude and longitude from inputs of initial position, speed and course.

The craft also carries a complete gyro-compass system with repeater compasses, a magnetic compass system with tele-transmission to repeater compasses, radar, Loran, a radio direction finder, electric steering stand with gyro-compass repeater, magnetic steering compass, ship-to-shore radio telephone and several new devices currently under development.

API to Hold 36th Annual Meeting November 12-15

A program that features top flight representatives of business, industry, government, and education has been scheduled for the 36th Annual Meeting of the American Petroleum Institute.

Between 6,000 and 7,000 persons are expected to register for the meeting, which will be held in Chicago November 12 through 15. The Conrad Hilton and the Palmer House will be the principal hotels for all sessions.

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The 84-foot crewboat JOHN T. DAVIS, above, was named after the port engineer for Twenty Grand Oil Field Service, Inc., of Berwick, Cameron, and Morgan City, Louisiana. The vessel carries 30 passengers.

Twenty Grand Honors Employee By Naming 84-foot Crewboat

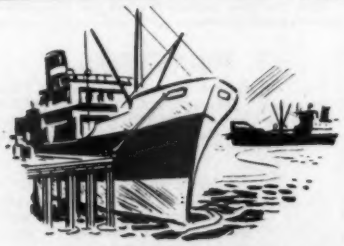
When Twenty Grand Oil Field Service, Inc., commissioned a 30-passenger crewboat it was honoring veteran company employee John T. Davis, who is now port engineer for the service company.

The 84-foot vessel is named the **John T. Davis**. It is the largest offshore craft yet build by E. W. and A. P. Dupont, Inc., of Patterson, Louisiana. Previously the Patterson construction firm had built craft as much as 30 feet long.

The **John T. Davis** is a trim steel craft with a 22-foot beam and a 6-foot draft. It is modernistically finished inside, with a galley and a large crew room with bus type seats.

Driving the **John T. Davis** are twin GM 6-110's, and the vessel has two 20-kw generators. Both engines and generators were supplied by Kennedy Marine Engine Company of Biloxi, Mississippi.

Twenty Grand's new vessel also has radar equipment by Radio Corporation of America, Westinghouse air controls, and an Ideal anchor winch.



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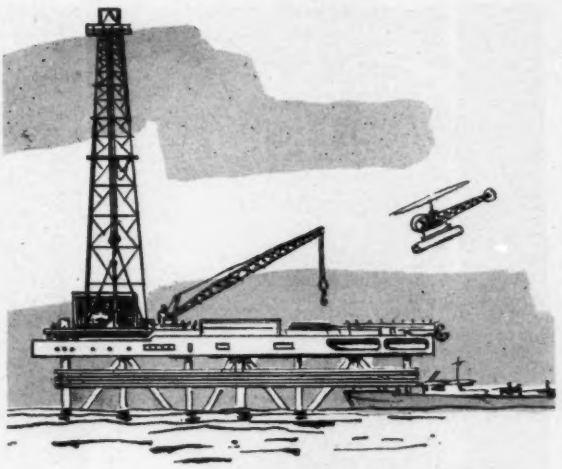
OWNER	Name	Water Depth	Present Status
Kerr-McGee Oil Ind., Inc. 13′ x 54′ x 160′, with two 13′ x 14′ x 110′ pontoons	Rig 40	To 20′	Drilling in Block 13, South Timbalier Area for The Texas Company
Kerr-McGee Oil Ind., Inc. Hayward-Wolff Design. 13½′ x 72′ x 140′ with two 13½′ x 13½′ x 140′ pontoons	Rig 44		Drilling in Block 12, South Timbalier, for Texas Co.
Kerr-McGee Oil Ind., Inc. 142′ x 69′ x 13′ 6″, with two 10′ x 11′ x 146′ pontoons	Rig 45	35′	Drilling in Block 81, West Delta, for CATC.
Ocean Drilling & Exploration Company Hayward-Laborde design, 132′ x 220′ x 58′	"Mr. Charlie"	40′	Drilling for Shell, Block 17 East Cameron.
Ocean Drilling & Exploration Company Hayward-Laborde design, 120′ x 180′ x 49′	"John Hayward"	22′	Drilling for self, Block 67 Ship Shoal Area.
The Offshore Company DeLong design, 81½′ x 70′ x 203′ with 12 6′ dia. caissons	Mobile Unit No. 51		Leased to Humble, at Galveston
The Offshore Company DeLong design, 131½ x 117′ x 220′, with 14 6′ dia. caissons	Mobile Unit No. 52		Drilling for Shell, East Cameron Area.
The Offshore Company John Hayward design, 12′ x 74′ x 200′, with four 6′ dia. caissons and four DeLong jacks	Mobile Unit No. 53		Drilling for Humble Oil & Refining Co. Eugene Island Area
The Offshore Company DeLong design, 200′ x 104′ x 15′ with eight 12′ dia. towers	Mobile Unit No. 54		Drilling for Shell, Block 188, Eugene Island Area.
The Offshore Company DeLong design, 200′ x 104′ x 15′ with eight 12′ dia. towers	Mobile Unit No. 55		High Island Area for Stanolind.
American Tidelands, Inc. Alexander Shipyard design, 12′ x 74′ x 200′ with four pontoons	"101"		Drilling for Humble.
C. G. Glasscock Drilling Co. Bethlehem design, 15′ x 80′ x 225′	"Mr. Gus"	84′	Drilling for Shell in Block A-72, High Island Area.
C. G. Glasscock Drilling Co. Bethlehem design, deck 258′ x 104′, pad 200′ x 180′ with four 10′ dia. columns	Unnamed Rig 12	To 125′	Being built by Bethlehem at Beaumont
Southeastern Drilling Co. Friede & Goldman design, 11′ x 90′ x 156′ with four pontoons	Rig 22, Barge 8		Righted, scheduled to drill for The California Company in November.
Zapata Off-Shore Company LeTourneau design, 20′ x 80′ x 140′, with three triangular legs	"Scorpion"	43′	Drilling for Standard of Texas, Block 104 (L) off Galveston
The California Company 11′ x 90′ x 156′ with four 3′ x 10′ x 35′ pontoons	S-44		Main Pass, The Offshore Co., contractor
The California Company 11′ x 90′ x 156′, with four 3′ x 10′ x 35′ pontoons	S-45		South Pass Block 41, Rowan Drilling Co., contractor
The California Company 12′ x 90′ x 190′, with four 4′ x 24′ x 50′ pontoons	S-55		Shut down for repairs.
John W. Mecom Floating drydock, 220′ x 78′ x 48′	"Ed. Malloy"		Block 45, West Cameron Area
Magnolia Petroleum Co. (Drill barge on piling)	Rig 52	24′	Block 46, Main Pass Area
Morris & Hamilton, Inc. Christenson & Graham design, 230′ x 99′ with 54′ between fixed hulls	"Carter Mart"	To 35′	Drilling in South Timbalier Area.
Penrod Drilling Company California Company design, 150′ x 190′	Unnamed	To 70′	Being built by Bethlehem Shipyard, Beaumont
Delta Offshore Drilling Co. Friede & Goldman design, 156′ x 90′	Unnamed	To 25′	To be built by Avondale Marine Ways, New Orleans
Coral Drilling Company Friede & Goldman design, 180′ x 151′ x 84′ with four pontoons	"Mr. Arthur"	To 70′	To be built by Alabama Dry Dock, Mobile, by the end of 1956



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Kerr-McGee Oil Ind., Inc. Design not reported	Rig 46	To 70′	Christened October 24 at Ingalls Shipbuilding, Pascagoula, Miss.
Kerr-McGee Oil Ind., Inc. Design not reported	Rig 47	To 70′	Being built by American Bridge, Orange, Texas
Placid Oil Co. Twin submersible hulls, each 72′ x 178′	Unnamed	To 100′	Being built by Levingston at Orange
Ocean Drilling & Exploration Company ODECO design 200′ x 300′ x 93′	"Margaret"	To 65′	Under construction at Alabama Drydock Co., Mobile, to be delivered December, 1956.
Ocean Drilling & Exploration Company 120′ x 180′ x 50′	"St. Louis"	To 25′	Drilling for Shell, Block 27 South Pass Area.
Louisiana Offshore Drilling Company Friede & Goldman design, 180′ x 151′ x 12′	Not announced	To 65′	To be built by Ingalls
Mobile Offshore Company Robert Macy design, 201′ x 202′ x 110′	Not announced	To 70′	Being built at Ingalls, Pascagoula, Miss.
Trahan Exploration, Inc. Friede & Goldman design, 66′ x 136′ x 180′	"Mr. Bob"	To 50′	To be built by American Bridge, Orange, Texas
Delta Marine Drilling Co. Hayward-type submersible	Not announced	To 30′	Being built by American Marine Corp., at New Orleans
Zapata Off-Shore Company LeTourneau Design. 194′ x 152′ overall. Three 145-foot legs.	Unnamed	To 80′	Being built by LeTourneau at Vicksburg, Mississippi. Expected early in 1957

Drilling Tenders

OWNER	Name	Water Depth	Present Status
CATC:			
Continental Oil Co., Atlantic Refining Co., Service Production Co. New tender, 260′ x 54′	"J. C. Craig"	50′	**Tidewater Oil Co., Cities** Block 192, West Cameron, Well E-1
Same Companies as above New tender, 260′ x 54′	"Carle Sharp"	72′	Block 192, West Cameron, Well B-2
Same Companies as above New tender, 260′ x 54′	"Ernie Miller"	50′	Block 45 West Delta, Well A-1
Same Companies as above New tender, 260′ x 54′	"Jack Cleverley"		Block 28 Grand Isle, Well A-1
Same Companies as above New tender, 260′ x 54′	Unnamed		To be built by Levingston Shipbuilding Co., Orange
The California Company Converted LST, 328′ x 50′	S-21	85′	East Cameron Area, Block 160, Noble Drilling Co.
The California Company Converted LST. 328′ x 50′	S-22	38′	**Bay Marchand, La., Loffland Bros. rig**
The California Company Converted LST. 328′ x 50′	S-23	36′	Bay Marchand, Louisiana, Noble Drilling Co.
The California Company LST, 328′ x 50′	S-24	50′	West Delta, Louisiana, Noble Drilling Co.
The California Company LST, 328′ x 50′	S-25	25′	Main Pass, Louisiana, Loffland Bros. rig
The California Company LST, 328′ x 50′	S-26	60′	South Pass, Louisiana, Loffland Bros. rig
Gulf Oil Corporation Converted LST. 328′ x 50′	"Eagle"	103′	Block 128, South Timbalier Area
Gulf Oil Corporation New tender. 272′ x 60′	"Pelican"	45′	Block 130 Ship Shoal Area
Humble Oil & Refining Co. Converted LST. 328′ x 50′	ST-1	20′	Pensacola Bay Florida area.
Humble Oil & Refining Co. Converted LST, 328′ x 50′	ST-2	60-65′	Drydock, Todd Shipyards, New Orleans.
Humble Oil & Refining Co. Converted LST, 328′ x 50′	ST-3	50′	Tied up at Galveston dock waiting on shipyard bids.

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Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-4	40-50'	Pelican Island
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-5		Drydock, Alabama Shipyard
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-6		Stacked at Grand Isle District.
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-7	40-50'	Grand Isle Area
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-8	60-65'	South Timbalier Area
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-9	60-65'	Block 272 (L), Galveston Area ,off Texas.
(Three LST's are being converted for Humble by Levingston at Orange)			
Kerr-McGee Oil Ind., Inc. Converted YF, 260' x 48'	"Kermac I" Rig 16		Drilling for Standard of Texas at Aransas Pass
Kerr-McGee Oil Ind., Inc. New tender, 250' x 50'	"Kermac II" Rig 43		In Morgan City slip, waiting on location
Kerr-McGee Oil Ind., Inc New tender, 250' x 50'	"Kermac III" Rig 48		Drilling for CATC, Block 56, West Delta Area
Kerr-McGee Oil Ind., Inc. Converted YF, 260' x 48'	"Frank Phillips" Rig 39		In Morgan City slip, waiting on location.
Phillips Petroleum Company Converted YF, 260' x 48'	"K. S. Adams" Rig 40	27'	Bay Marchand, Block 4
MCN GROUP:			
Magnolia Petroleum Co. Continental Oil Co.			
Newmont Oil Co. Converted YF	MDT-1	23'	Block 89, Eugene Island Block 110 Field.
MCN Group Converted YF	MDT-2	18'	Block 54, Ship Shoal Area, Well B-1, Wildcat
MCN Group Converted YF	MDT-3	32'	Block 46, West Cameron Area, Well A-2,
MCN Group Converted YF	MDT-4	54'	Block 117, Ship Shoal, Block 113 Field, Well D-1
MCN Group Converted YF	MDT-5	25'	Block 46 Vermilion Area, wildcat, Well A-1
MCN Group Converted YF	MDT-6		Block 125, Eugene Island, Well E-2, Work-over job
MCN Group Converted YF	MDT-7		Rig shut down pending drilling permit; in disputed zone
Pure Oil Company Converted LST, 328' x 50'	"R. W. McIlvain"	40'	Levingston Shipyard, Orange, Texas
Zapata Off-Shore Company Converted YF, 260' x 48'	"Nola No. 1"		Drilling for CATC, Block 193 East Cameron Area
Llano Drilling Company New tender, 260' x 54'	"Clayton G. Dorn"	55'	Block 149, Ship Shoal, for Forest Oil Corporation
Union Oil Co. of California Converted LST, 328' x 50' Chartered from Stanolind	"Stanolind 50"		Block 26, Vermilion Area, Loffland Bros., contractor
Reading & Bates Offshore Drilling Company	"J. W. Bates"		Drilling off Cameron Parish for CATC
Reading & Bates Offshore Drilling Company	"George M. Reading"		Being built by Levingston, expected in November, 1956
The Murmanill Corp. Converted tanker, 306' x 48'	"Murmanill I"		Leased to Dixilyn Drilling Corp., drilling for Gulf Oil, Bay March, Block 6
Delta Marine Drilling Co. Converted LST, 326' x 50'	"Joseph Zeppa"		Completed by American Marine Corp., New Orleans.
Deepwater Exploration Co. Converted LST, 328' x 50'	"Deepwater No. 1"		Block 39, East Cameron Area
Coastal-Marine Drilling and Construction Corp. New tender, 272' x 56'	Not announced		To be built by New York Shipbuilding Corp., Camden, New Jersey
Southeastern Drilling Co. Converted YF	Rig 12, Barge 9		To drill for CATC beginning early in November.
Magnolia Petroleum Co. (Converted YF)	Not announced		Being converted at Avondale, New Orleans

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Self-Contained Platforms

Company	Description	Year Built	Location	Depth of Water
CATC:	106′ x 220′	1955	Block 47 Grand Isle, La.	95′
Continental Oil Co., Atlantic Refining Co., Tidewater Oil Co., Cities Service Production Co.				
Same companies as above	110′ x 146′	1956	Block 43 Grand Isle	112′
Same companies as above	110′ x 146′	1956	Block 40 Grand Isle	82′
Same companies as above	110′ x 146′	1956	Block 59 West Delta	56′
Pure Oil Company	100′ x 42′, with 80′ x 67′ 6″ pipe rack	1956	Block 32 Eugene Island Area, Well F-1. Loffland rig	10′
Pure Oil Company	110′ x 64′ with 80′ x 67′6″ pipe rack	1956	Block 2 West Cameron, Well A-1. Loffland rig.	8′
Humble Oil & Refg. Co.	78′ x 200′	1956	Block 18 Grand Isle	50′
Magnolia Petroleum Co.	52′ x 311′	1954	State Tract 10-A, S-W of Sabine Pass, Texas	34′
Magnolia Petroleum Co.	52′ x 345′	1956	State Tract 10-B, S.W. of Sabine Pass, Texas	34′
Magnolia Petrol'm Co. (Southeastern Drilling Corp., Contractor) (for MCN)	52′ x 182′ and 55′ x 109′		Block 128, Eugene Island Block 128 Field, Well A-2	52′
Magnolia Petroleum Co. (for MCN)	54′ x 205′	1955	Block 119, Eugene Island Area, Well F-2 (Work-over job)	38′
Magnolia Petroleum Co. (Southeastern Drilling, Contractor) (for MCN)	54′ x 205′	1955	Block 119, Eugene Island Area. Shut down, waiting drilling permit; in disputed zone.	37′
Phillips Peiroleum Co.	85′ x 140′	1955	Block 184, Eugene Island Area, company tools	84′
Phillips Petroleum Co.	88′9″ x 140′	1955	Block 129-A, Eugene Island Area, La. Loffland Bros., contractor	52′
Phillips Petroleum Co.	88′9″ x 140′	1956	Block 172, Eugene Island Area, Big Chief Drilling Company, Contractor	77′
Phillips Petroleum Co.	88′9″ x 140′	1956	Block 191 Eugene Island Area. No contractor as yet	81′
Shell Oil Company	82′ x 197′	1955	Block 42, South Pass, La. Shut down	72′
Shell-Union	82′ x 198′	1955	Block 116, Eugene Island Area Platform A. Shut down	48′
Shell Oil Company	82′ x 196′	1956	Block 116, Eugene Island Area. Platform B. Shut down.	50′
Stanolind Oil & Gas Co.	192′ x 97′	1956	Block 39 Ship Shoal Area, Loffland Bros., contractor.	5′
Gulf Oil Corporation	120′ x 145′	1955	Block 154 Ship Shoal Area Salt Dome Production Co., contractor	60′
Gulf Oil Corporation	120′ x 145′		Block 889, Mustang Island Area, Texas. Brewster-Bartle, contractor	46′
Gulf Oil Corporation	120′ x 145′	1956	Block 154 Ship Shoal Area. Dixilyn Drilling Co., contractor	52′
Mecom Petroleums	82′ x 193′	1948	Block 45, West Cameron Area, company rig	34′
The Superior Oil Co.	138′ x 326′	1955	West Cameron Block 102	48
The Superior Oil Co.	144′ x 326′	1954	West Cameron Block 101	43
Sinclair Oil & Gas Co.	152′ x 132′ (L-shape)	1955	Block 175, Eugene Island Area. Rimrock Tidelands, contractor	87′
Sinclair Oil & Gas Co.	112′ x 133′	1956	Block 86 South Timbalier Area. Rimrock Tidelands, contractor	92′
Arkansas Fuel Oil Corp.	54′ x 145′	1956	Drilling in S.T. 905 (S) off Texas. Glasscock rig.	45′

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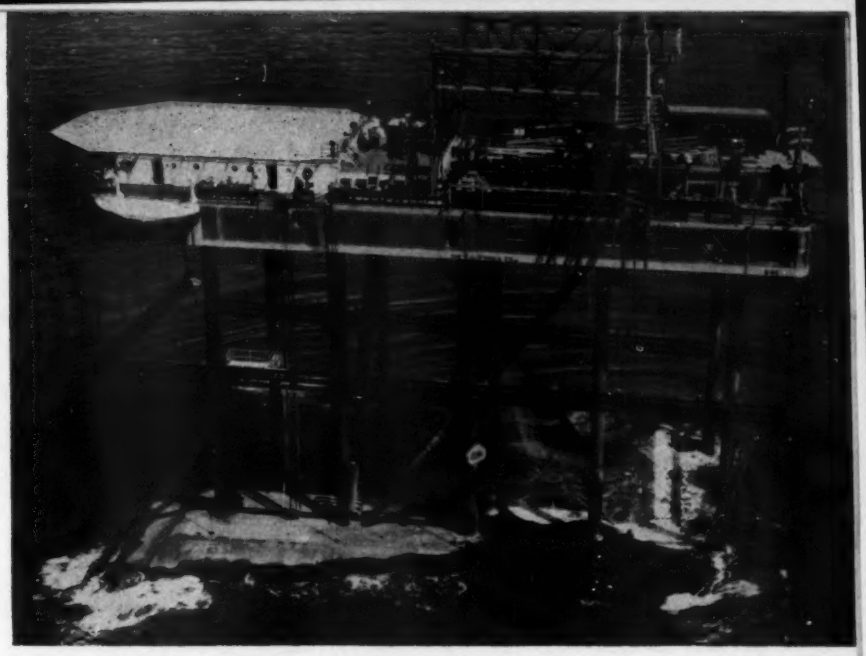


The California Company's S-55 begins submerging operations on location. Its streamlined lower hull shows the advanced design characteristics which tend to reduce the effect of wave action and scouring on the bearing surface.

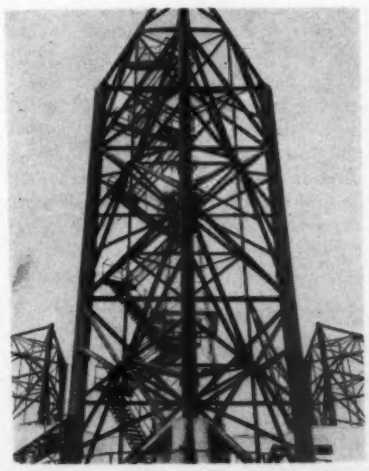
Two engineers cite . . .

Trends In Mobile Unit Design

By BRUCE G. COLLIPP and RICHARD J. HOWE
Shell Oil Company

During the first five years of mobile platform development there was considerable variation in both overall design and water depth capabilities of mobile units. However, in the past year there has been an increasing trend toward repeating certain designs. This is a result of a number of factors.

First, the number of units is increasing so rapidly that there just is not the technical manpower available to prepare and evaluate many new designs. Secondly, five years of mobile unit experience have furnished sufficient information so that it has been found practical to modify certain existing units rather than devise radical new designs. One other related factor is that none of the 25 or so units currently in operation has been subjected to a maximum hurricane condition. . . .



Open-truss design of supporting legs, such as on SCORPION, has found increased use. Racks of the rack and pinion elevating mechanism are located on leading edges of the triangular legs.

Open fabricated legs . . . There has been an increase in the use of open fabricated legs constructed of circular members rather than single circular piling to support deep water mobile platforms. This is primarily a result of the fact that with a circular pile an increase in diameter to increase the section modulus (bending resistance) generally causes an appreciable increase in the wave forces. The open fabricated leg provides a design technique to increase the section modulus, at the same time keeping the increase in wave forces at a minimum. . . . Another facet of piling design is the jacking problem. It is a difficult task to transmit loads approaching 1,000 tons from a platform to a smooth circular pile five to six feet in diameter. The early circular pile designs used inflatable rubber boot-type jacks which were subsequently backed up with steel teeth for a better grip. Another unit is driving and pulling piles by means of a double slip arrangement in much the same manner as a casing hanger. One new open leg design is using a rack and pinion device while another has a staggered hydraulic pin arrangement to raise and lower its legs.

Shaped hulls . . . Some of the newer mobile units have incorporated streamlined bearing hulls in order to reduce the large wave forces acting on these submerged surfaces. Even though they are located as much as 50 to 75 feet below the water's surface, the forces on the

(Continued on next page)

A different open fabricated leg design is used on The Offshore Company NO. 54, shown under construction. In this case leg edges are slotted to receive pins of a hydraulic ram jacking system.

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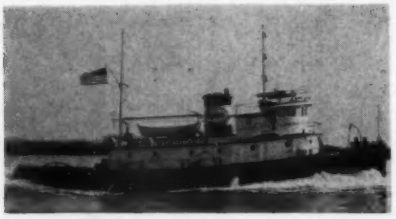

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Trends In Mobile Units . . .

(Continued from preceding page)

hull alone can account for as much as 80 percent of the total wave forces. It is also felt that streamlining increases the resistance of hulls to scouring action resulting from waves and currents.

Multiple well and adjustable derricks . . . Some of the new designs, particularly the deep water ones, are using multiple well derricks capable of drilling several wells from one location. This trend is probably the result of two factors. First and foremost is the cost of erecting production platforms in deep water. Even for a single well the platform must be quite substantial and the addition of five more wells will usually not even double the cost . . . Another factor involved in the trend toward multiple well derricks is the cost of moving a large mobile unit to another location, even if it is just a short distance away . . . Weighed against these advantages are the additional cost of directional holes and increased hazards associated with multiple well platforms.

Installation technique . . . Most of the fixed-deck type mobile units utilize stabilizing equipment when going on location. This equipment has taken the form of pivot pontoons, footpads, side pontoons, and dumbbell-shaped hulls. Recently, several fixed-deck type mobile units have gone to vertical columns to provide the necessary sinking stability. Since the sinking stability is a function of the moment of inertia of the waterplane area of these columns, they have been placed far apart in order to keep their size reasonable. This requirement has necessitated enlarging the plan area of the rigs, with the largest one currently under construction about 200 x240 feet. These columns have eliminated many of the moving parts employed with other techniques and have, thereby, reduced the construction cost and the possibility of equipment failure.

(Editor's Note: This fall a paper entitled "Offshore Mobile Units—Present and Future" gave members of the American Society of Mechanical Engineers a look at the workings of mobile drilling platforms. The paper was prepared by Bruce G. Collipp and Richard J. Howe, of Shell Oil Company, for an ASME meeting in Dallas September 23-26.)

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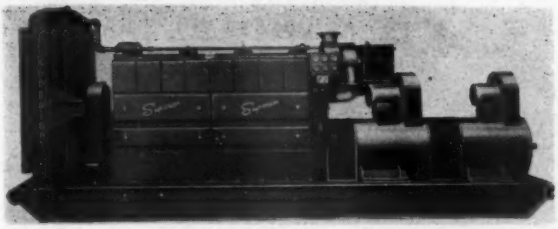
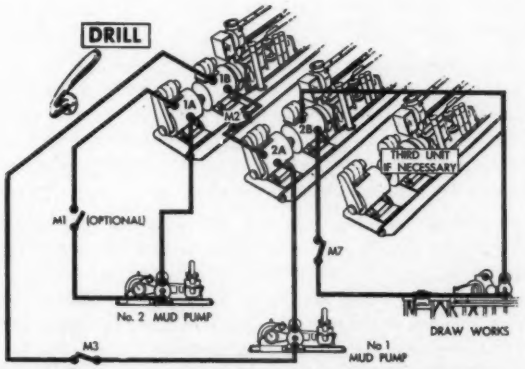


Profile view of White's Superior engine-generator set, showing the two main generators coupled to the engine crankshaft and skid-mounted in-line.

White Diesel-Electric Drilling Package Has More Power Per Unit Weight

A diesel-electric drilling rig power plant featuring lower weight, more power and a simpler construction has been developed. White Diesel Engine Division of the White Motor Company has designed the new units for offshore or inland drilling to depths of more than 20,000 feet.

(Continued on next page)



DRILLING . . . When two engine-generator units are used, generators for mud pumps are connected in series. Rotary is turned through connection to the drawworks, which receives power from a single plant generator. A third engine-generator unit could be connected in series to distribute the load equally among the three power plants.

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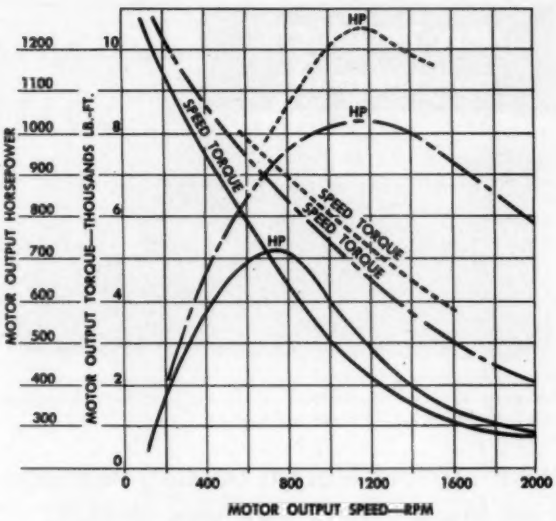

Speed-Torque and Horsepower Characteristics (Calc.) for a 1000 HP Oil Well Drilling Motor Operating from One or Two Generators. (Singly or in Series)

——— Single Generator
——— Two Generators in Series Normal Operation
- - - - - Two Generators in Series Maximum for Emergency Operation—

Performance curves of drawworks, mud pumps motors.

(Continued from preceding page)

Two models—with six or eight cylinder Superior Engines rated at 675 to 900 hp—are being distributed.

The package has two or more engine-generator sets, a minimum of three drive motors for the drawworks and two mud pumps, a console-type control stand and a terminal cabinet to house all electrical equipment. Each engine-generator set has a Superior engine and two generators and weighs 21 tons.

In addition to the inherent flexibility of diesel-electric systems the White units have as few as three drive motors because Westinghouse traction-type motors in the White packages are rated at 1,000 hp continuous and 1,250 hp intermittent output. There is direct connection between engine and generator.

The motors are of heavy-duty, 6-pole construction. The Westinghouse generators in the units are 550 kw, direct current. Parts can be interchanged.

General Manager W. F. Burrows of White Diesel said the new packages "explode the belief that the cost

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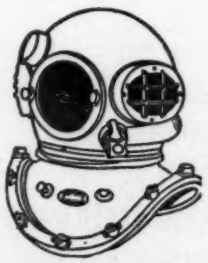

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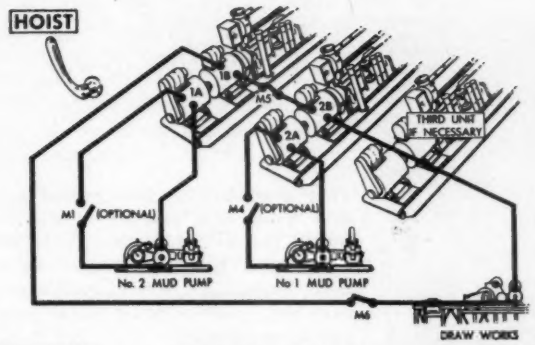

HOISTING . . . Generators in series are used for the drawworks while a generator still is available for each mud pump. This flexible arrangement of power makes possible the application of maximum power under any load condition without exceeding the normal, continuous horsepower rating of any engine.

of diesel-electric drilling rig power plants is prohibitive. Cost has been made competitive by using standard production units such as our Superior Engines and Westinghouse's motors and generators."

ITEM	PTDE-6	PTDE-8
Rated Horsepower	675*	900*
Cycles	4	4
Bore	8½"	8½"
Stroke	10½"	10½"
Revolutions per minute at rated power	1000	1000
Idling revolutions per minute	550	550
Number of Cylinders, vertical, in-line	6	8
Total Displacement—Cu. In. (595.8/cyl.)	3575	4767
Brake Mean Effective Pressure-lbs. per sq. inch	150	150
Supercharged (Exhaust-Driven Turbocharger)	yes	yes
Number Crankshaft Main Bearings	7	9
Diameter	6"	6"
Length of shell (except flywheel end)	3½"	3½"
Length of shell—flywheel end	4⅛"	4⅛"
Number Crankpin Bearings	6	8
Diameter	5¾"	5¾"
Length of shell	3⅝"	3⅝"
Number Camshaft Bearings	7	9
Piston Pin Bearing Diameter	3½"	3½"
Length	3½"	3½"
Piston Length	12 19/64"	12 19/64"
Piston Cooling	Forced Oil	Forced Oil
Injection System—Individual Pumps	Scintilla**	Scintilla**
Water Circulating Pump	Centrifugal	Centrifugal
Gallons per minute—full speed	205	205
Lubricating Oil Pump	Rotary Gear	Rotary Gear
Gallons per minute—full speed	105	105
Governor	Woodward	Woodward
Dry Weight (excluding gen. & coupling)	15100 lbs.	18410 lbs.
Rotation (facing flywheel)	Counter clockwise	
System Supplies		
Lube oil in System, Gals.	100	110
Water in System, Gals.	120	140

*Up to 2000 ft. elevation. Reduce by 2½% for each 1000 ft. greater elevation. This rating based on 150# BMEP, 160 # BMEP allowable.
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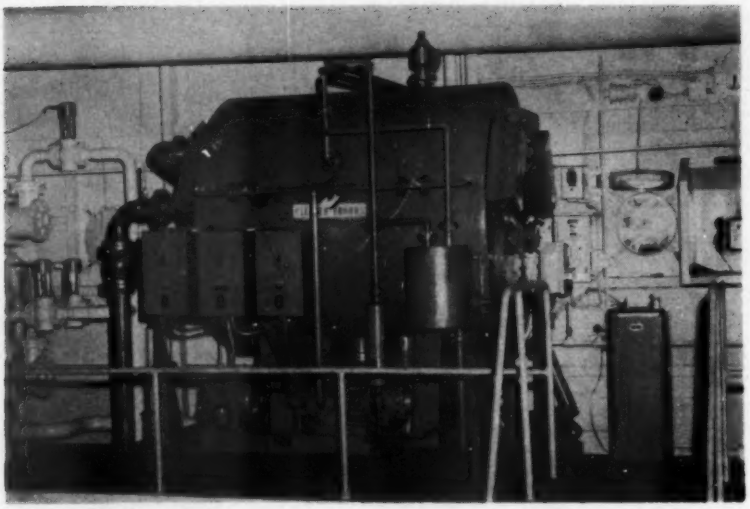


This experimental 300 gallons per hour waste heat evaporator was installed on the CATC group's tender JACK CLEVERLEY. Present waste heat evaporators with modifications have been a direct result of this successful experiment.

Operation and Cost Analysis Of Waste Heat Evaporators

BY ED. UECKER
Cleaver-Brooks Company

Every offshore drilling rig contains sufficient waste heat in the cooling water of its diesels to make an abundance of fresh water. Recovering this wasted energy and utilizing it in a practical manner is something every operator can now accomplish. Up to 575 barrels of fresh water per day can be produced from the waste heat of diesel engine jacket water when operating with a total load of approximately 1,500 hp. Production of fresh water is in direct proportion to engine horsepower.

How it works . . . In a Cleaver-Brooks waste heat evaporator system (see flow diagram) the following steps occur:

1) Sea water is circulated first through the evaporator condensing coils. It picks up heat from the condensing fresh water and establishes the vacuum in the flashing chambers.

2) The sea water goes to the engine-jacket water cooling exchangers, receiving the diesel engine heat that is normally wasted.

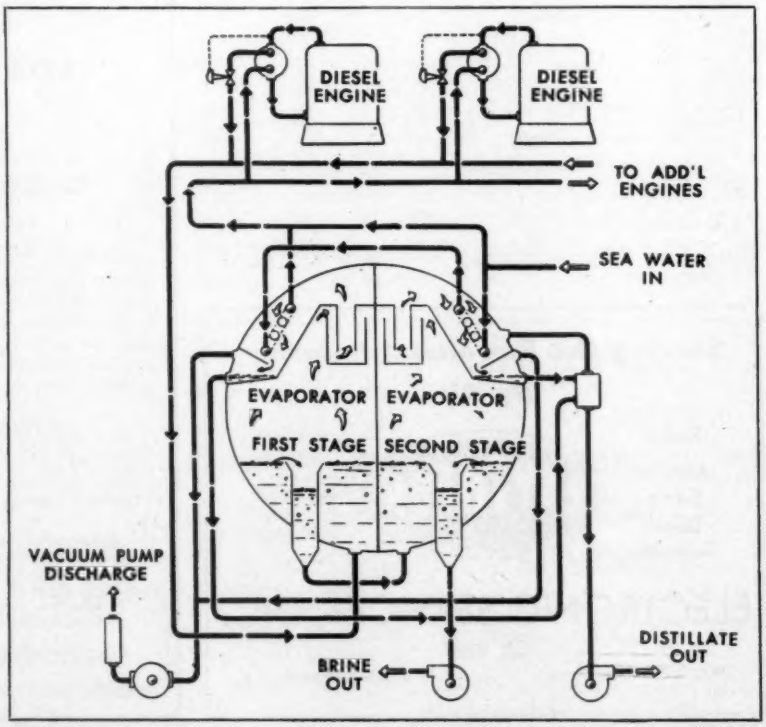
3) From the engine-jacket water cooling exchangers the warmed sea water enters the evaporator vacuum chamber and flashes into steam.

4) The steam passes over the condensing coils and is removed as the pure distilled water product.

5) Fresh water production varies automatically with changes in diesel load. No adjustments are necessary.

Low maintenance . . . Because the evaporator is based on the flashing principle, no boiling of sea water occurs on tube surfaces where scale formations tend to accumulate. To the offshore operator this means long periods of continuous operation.

Sea water is warmed in the engine-jacket water cooling exchangers suf-



ficiently to meet the requirements of the U. S. Public Health Service, but never exceeds 170° F. This low temperature operation is another contributing factor to the relatively low maintenance.

Factors entering into the operator's initial decision regarding fresh water supply for a rig, whether it be one mile or 50 miles from shore are:

1) Will bad weather interrupt the fresh water supply?

2) Must the operator be dependent upon someone else for fresh water?

3) Will it be necessary to tie up a barge with extra trips for water?

4) Is the water transported in barges suitable for drinking?

If the operator feels that an evaporator is his best water supply, he is faced with two additional questions:

1) Will maintenance on the evaporator be low enough to justify its installation?

2) Will the cost of fresh water be reduced?

The justification for a waste heat system lies in its ability to provide virtually cost-free fresh water after installation. Its simple operation, low temperatures and reduced scale mean low maintenance, combined with no additional energy requirements, providing evaporated water simply and at low costs. (See Table.)

As with any new application of a product, the first installation indicated areas for improvement. Primary was the problem of proper evaluation of the expected diesel loads. The evaluation was necessary to estimate accurately the waste heat available for water production. Experience gained from our first unit made it possible to obtain accurate estimates of water production and selection of the proper model for each requirement. Specific equipment improvements include:

1) Improved separation of steam from the sea water resulting in greater purity.

2) Improved automatic controls.

3) More compact construction.

4) Addition of accessories to permit water production when drilling engines are idle.

5) Simplified piping.

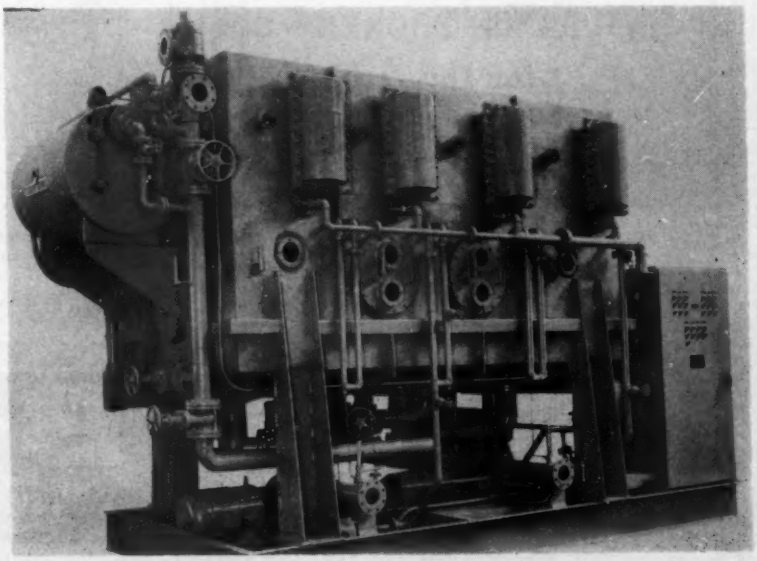
6) Standardization of models.

The waste heat evaporator is supplying fresh water on the spot for offshore drilling rigs and is cheaper and more efficient than any previous method. For these reasons leading offshore operators have turned to this method as a source of fresh water.

Other applications for shipboard include purchases by the U. S. Navy (or subcontractors) for use with turbine extraction steam as the waste heat source on supercarriers, frigates, destroyer escorts, beach discharge lighters and cargo vessels. These units constitute the only source of potable water aboard.

Typical Cost Per 1000 Gallons

ITEM	Unit Price	Waste Heat	Vapor Compression	Multi-Effect	Purchased
Diesel fuel	@ 10.6c gal.	00c	48c	$ 4.80	
Electricity for pumps	@ 1c kw	20c	1c	14c	
Lubricating oil	@ 77c gal.	½c	6c	½c	
Acid for de-scaling	@ 50c gal.	½c	20c	½c	
Maintenance costs		2c	18c	2c	
Operational Labor	@ $2.50 hr.	10c	85c	75c	
Operational costs		33c	$1.78	$5.72	
Operational Costs (bbl.)		1½c	7½c	24c	25c
Operational daily costs (685 bbls.)		$10.28	$51.38	$164.40	$171.25



This four-stage, 1,000 gallon per hour, waste heat evaporator is the largest type operating in the Gulf of Mexico. Equipment of this type supplies all fresh water needs on The Offshore Company's Mobile Units NO. 54 and NO. 55.

THE AUTHOR

Ed. Uecker is sales manager, Special Products Division, of Cleaver-Brooks Company. He has been active in the development of sea water evaporators since coming with Cleaver-Brooks in 1951. A graduate of University of Wisconsin with a BS degree in mechanical engineering, Mr. Uecker has a background of heat transfer development and promotion, through association with General Electric Company and Young Radiator Company.

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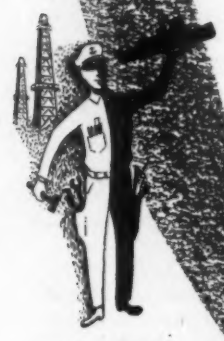

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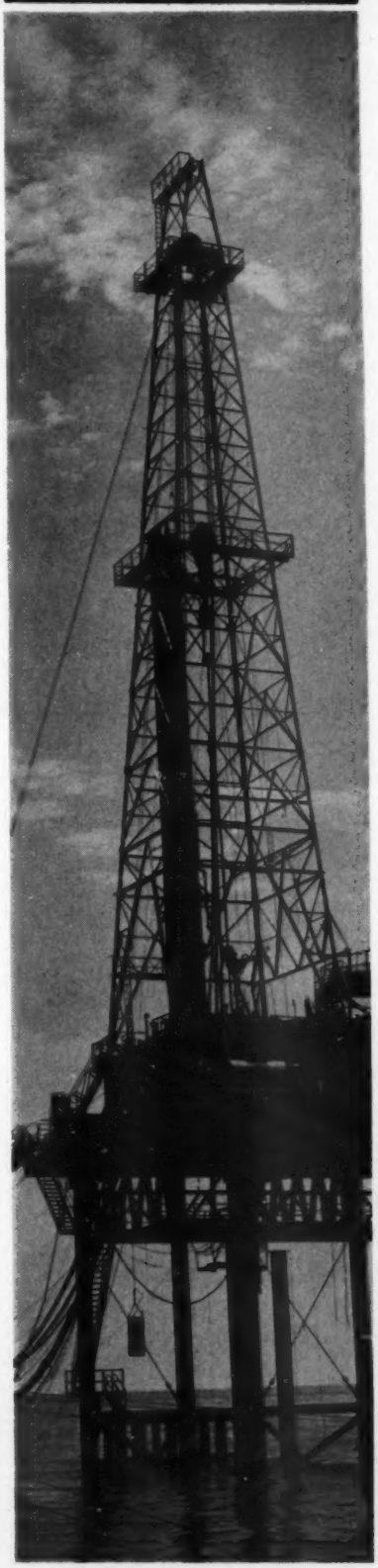

West Delta Test Finaled

CATC discovery in Block 82 is third wildcat potentialed in that vicinity in three months

The area west of the Southwest Pass of the Mississippi River got its third strike in as many months with completion of a Continental Oil Company (CATC) wildcat for a flow of 266 barrels of oil daily. Strike was the No. 2 State Lease 987.

CATC's discovery, in Block 82 of the West Delta Area, potentialed throgh a 9/64-inch choke and perforations between 10,152-66 feet. Gravity of the oil was 30.6. The test had gone to 11,029 feet.

In August The California Company finaled a strike about one mile southwest of the new CATC discovery. Calco's No. 1 State Lease 2566, in Block 41 of the South Pass Area, made 160 barrels of oil daily through perforations between 7,964-78 feet when potentialed last August.

An earlier CATC wildcat in Block 82, the No. 1 State Lease 987, was abandoned in June after reaching 13,976 feet and taking electric logs at 12,001 feet, 12,890 feet, 13,535 feet, and the total depth. It is about two miles northwest of the No. 2.

Humble Oil Opens Deep Pay In Grand Isle Block 18 Field

A new deep oil sand has been opened by Humble Oil & Refining Company at its Grand Isle Block 18 field, off Jefferson Parish. The discovery, No. C-8 State Lease 802, flowed at the rate of 243 barrels of 35.7 gravity oil daily through an 8/64-inch choke and perforations between 11,547-600 feet. Gas-oil ratio was 930-1. Total depth was 12,214 feet.

The well is in Block 19. The field, opened in 1948, has 15 pays and has produced more than 4.3 million barrels of oil.

Wildcat Completed 48 Miles Off Cameron Parish Shore

The California Company has completed a small gas-distillate discovery a whopping 48 miles from shore off Cameron Parish. The strike, No. 1-A OCS 0541, made a daily flow of 43 barrels of 52 gravity condensate and 2 million cubic feet of gas through a

(Continued on next page)

Eugene Island Gets Strikes

Pure Oil opens deep ninth pay in Block 32 field; Shell-Humble prospector makes 378 barrels daily

Two wildcats off St. Mary Parish have been completed to open a new field and the ninth pay in an old field.

Shell Oil Company has announced an oil discovery in Block 188 of the Eugene Island Area. The Shell-Humble No. 4 OCS 0443 discovery well is about six miles west of Gulf Oil Corporation's Ship Shoal Block 154 field.

On a drillstem test the No. 4 made a daily rate of 378 barrels of 35.9 gravity oil, plus 182,000 cubic feet of gas. The test was made through a 9/64-inch choke from an interval of 10,497 to 10,511. Total depth was 11,691 feet.

Two dry holes had previously been drilled jointly by Shell and Humble Oil & Refining Company in Block 188.

The discovery well will be shut in pending gathering and transportation facilities.

The Pure Oil Company's seven-year-old Eugene Island Block 32 field got a new pay recently with the completion of a deep gas-distillate producer. Pure's No. 1-F State Lease 833 completed for a daily flow of 12.7 million cubic feet of gas plus 20 barrels of distillate per million. Flow was through a 20/64-inch choke and perforations between 12,478-526 feet, and 12,536-51 feet.

The well was drilled to 16,868 feet, with casing set at total depth.

The field already had eight oil pays between 8,510-12,125 feet. Sun Oil Company also operates in the field, which has produced over 2 million barrels of oil to date.

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(Continued from preceding page)

12/64-inch choke and perforations between 8,664-700 feet.

Calco's discovery is in Block 160 of the East Cameron Area. It went to 11,193 feet. The company has staked its No. 2-A OCS 0541 to 9,000 feet one-half mile southeast of the discovery.

Nearest production is in the Block 192 West Cameron field, 30 miles northwest.

Texas

Open Flow Gauges Taken For Two Chevron Strikes

Open flow gauges have been taken for two prolific gas discoveries completed earlier in the Chevron field off Texas by Standard Oil Company of Texas. Together, the wells made a total flow of 83.1 million cubic feet of gas daily.

The No. 87 State Tract 949 made a flow of 43,500,000 cubic feet of gas daily through perforations between 9,504-22 feet and 9,536-75 feet. Gas-oil ratio was 161,000-1, with gravity of the distillate 55.9. The well was completed in January, 1956. It is in tract 949 (s), off Kleberg County.

Standard Oil Company of Texas No. 22 State Tract 951 tested for an open flow of 39,600,000 cubic feet of gas daily through perforations between 8,256-72 feet. Gas-oil ratio was 119,800-1, gravity of the distillate was 54.7. It is in Tract 951 (s).

Drilling Slated In Tracts Just Off Galveston Island

Texas Gulf Sulphur Company is seeking Corps of Engineers permission to erect structures for exploratory drilling just off Galveston in the Galveston Area.

Involved are small state tracts 216(S), 217(S), 218(S), 219(S), 225(S), and 226(S), within ½ to 4 miles from shore.

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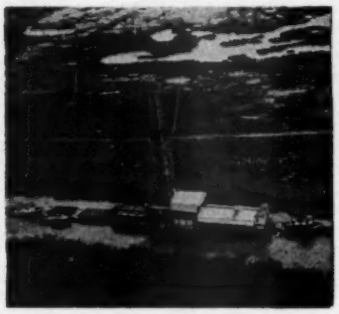

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OFFSHORE LOCATIONS

TEXAS

Galveston County: Humble Oil & Refining Co. 3 State Tract 247 (L), wildcat. Tract 247 (L), Galveston Area. Proposed depth 8,500 feet.

Galveston County: Standard Oil Co. of Texas 2 Federal Block 104, wildcat. Block 104, Galveston Area. Proposed depth 10,000 feet.

Galveston Company: The Texas Co. 1 State Tract 136 (S), wildcat. Tract 136 (S), High Island Area. Proposed depth 11,000 feet.

Jefferson County: Magnolia Petroleum Co. A-10 State Tract 9 (L), High Island Block 10 (L). Tract 9 (L), High Island Area. Proposed depth 11,500 feet.

Kleberg County: Standard Oil Co. of Texas 85 State Tract 945 (S), Chevron field. Tract 945 (S), Mustang Island Area. Proposed depth 9,000 feet.

Kleberg County: Standard Oil Co. of Texas 42 State Tract 947 (S), Chevron field. Tract 945 (S), Mustang Island Area. Proposed depth 10,000 feet.

LOUISIANA

Cameron Parish: Anderson-Prichard Oil Corp. 2-A State Lease 1186 (OCS 0304), wildcat. Block 38, East Cameron Area. Proposed depth 14,820 feet.

Cameron Parish: Anderson-Prichard Oil Corp. 3 State Lease 1186 (OCS 0306), wildcat. Block 39, East Cameron Area. Proposed depth 14,820 feet.

Cameron Parish: The California Co. 2-A OCS 0541, East Cameron Block 160. Block 160, East Cameron Area. Proposed depth 9,000 feet.

Cameron Parish: Shell Oil Co. 1 OCS 0407, West Cameron Block 192. Block 82, East Cameron Area. Proposed depth 10,000 feet.

Plaquemines Parish: Magnolia Petroleum Co. A-2 State Lease 2726, wildcat. Block 46, Main Pass Area. Proposed depth 12,000 feet.

Plaquemines Parish: The California Co. 5 State Lease 2557, Main Pass Block 69. Block 67, Main Pass Area. Proposed depth 7,000 feet.

Plaquemines Parish: The California Company 6 State Lease 2557, Main Pass Block 69. Block 67, Main Pass Area. Proposed depth 7,000 feet.

Plaquemines Parish: The California Co. 1 State Lease 2855, South Pass Block 24. On shore. Proposed depth 9,500 feet.

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Plaquemines Parish: Shell Oil Co. 1 Shell-State-Ray D'Asaro Unit 1, South Pass Block 24. On shore. Proposed depth 8,900 feet.

Plaquemines Parish: Shell Oil Co. 2 State-O'Brien Unit "C", South Pass Block 24. Near Block 11, South Pass Area. Proposed depth 8,900 feet.

Plaquemines Parish: Shell Oil Co. 3 State-O'Brien Unit "C", South Pass Block 24. Near Block 11, South Pass Area. Proposed depth 8,900 feet.

Plaquemines Parish: Shell Oil Co. 4 State-O'Brien Unit "C", South Pass Block 24. Near Block 11, South Pass Area. Proposed depth 8,900 feet.

Plaquemines Parish: Shell Oil Co. 10 State Lease 999, South Pass Block 24. Block 12, South Pass Area. Proposed depth 10,500 feet.

Plaquemines Parish: Shell Oil Co. 34 State Lease 1008, South Pass Block 24. Block 24, South Pass Area. Proposed depth 8,300 feet.

Plaquemines Parish: Shell Oil Co. 49 State Lease 998, South Pass Block 24. Block 11, South Pass Area. Proposed depth 9,750 feet.

Plaquemines Parish: Shell Oil Co. 50 State Lease 998, South South Pass Block 24. Block 11, South Pass Area. Proposed depth 9,750 feet.

Plaquemines Parish: Shell Oil Co. 5 State Lease 2637, Lake Washington. Block 2, West Delta Area. No depth reported.

Lafourche Parish: The California Co. M-7 State Lease 1367, Bay Marchand Block 2. Block 3, Bay Marchand Area. Proposed depth 8,700 feet.

St. Mary Parish: Shell Oil Co. 3-A OCS 0478, Eugene Island Block 128. Block 116, Eugene Island Area. Proposed depth 11,915 feet.

St. Mary Parish: Shell Oil Co. 3-B OCS 0478, Eugene Island Block 128. Block 116, Eugene Island Area. Proposed depth 12,000 feet.

Terrebonne Parish: Gulf Refining Co. 2-A OCS 0462, South Timbalier Block 126. Block 135, South Timbalier Area. Proposed depth 12,000 feet.

OFFSHORE COMPLETIONS

TEXAS

Galveston County: Humble Oil & Refining Co. 1 Federal Block 141, wildcat. Dry hole. TD 12,010 feet. Block 141, High Island Area.

Galveston County: Humble Oil & Refining Co. 1 Federal Block 253, wildcat. Dry Hole. TD 11,327 feet. Block 253, Galveston Area.

Kleberg County: Standard Oil Co. of Texas 87 State Tract 949 (S), wildcat. Gas Well. Republished to show open flow gauge. TD 10,855 feet, perfd. 9,504-75 feet. PT 43,500 MCFGD open flow. GOR 161,000-1. Tract 949, Mustang Island Area.

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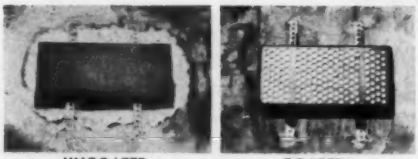

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Kleberg County: Standard Oil Co. of Texas 22 State Tract 951 (S), wildcat. Gas Well In New Pay. Republished to show open flow guage. TD 8,614 feet, perfd. 8,256-72 feet. PT 39,600 MCFGD open flow. GOR 119,800-1. Gra. 54.7. State Tract 951 (S), Mustang Island Area.

LOUISIANA

Cameron Parish: The California Co. A-1 OCS 0541, wildcat. Gas Discovery. TD 11,193 feet, perfd. 8,664-700 feet. PT 43 BCPD and 2,022 MCFGD on 12/64-inch choke. GOR 48,500-1. Block 160, East Cameron Area.

Cameron Parish: Phillips Petroleum Co. 1 State Lease 1123, West Cameron Block 33. Dry Hole. TD 14,005 feet. Block 33, West Cameron Area.

Cameron Parish: Superior Oil Co. B-2 Bureau of Land Management OCS 0247, West Cameron Block 71. Gas Well. TD 13,171, perfd. 12,553-63 feet. PT 54 BOD and 6,636 MCFGD on 20/64-inch choke. Gra. 50. Block 72, West Cameron Area.

Jefferson Parish: Humble Oil & Refining Co. C-8 State Lease 802, Grand Isle Block 18. Gas Discovery. Shut In. TD 12,214 feet, perfd. 11,547-600 feet. IPF 82.8 BOD and 1,147 MCFGD on 1/8-inch choke. Block 19, Grand Isle Area.

Lafourche Parish: The California Co. M-5 State Lease 1367, Bay Marchand Block 2. Oil Well. TD 6,451 feet, perfd. 5,756-87 feet. PT 84 BOD on 24/64-inch choke. Gra. 34.6. GOR 225-1. Block 3, Bay Marchand Area.

Plaquemines Parish: Continental Oil Co. (CATC) 2 State Lease 987, wildcat. Oil Well. TD 11,029 feet, perfd. 10,152-66 feet. PT 266 BOD and 128 MCFGD on 9/64-inch choke. Gra. 30.6. Block 82, West Delta Area.

Plaquemines Parish: The California Co. 1 G. T. Armstrong 2 et al unit 24, South Pass Block 24. Oil Well. TD 8,734, perfd. 8,603-20 feet. PT 155 BOD and 58 MCFGD. Choke size, if any, not given. Gra. 29.2. On shore, South Pass Area.

Plaquemines Parish: The California Co. 13 State Lease 1277 OCS 0371, Main Pass Block 69. Oil Well. TD 5,708 feet, perfd. 5,572-92 feet. PT 146 BOD on 10/64-inch choke. GOR 308-1. Gra. 25. Block 68, Main Pass Area.

Plaquemines Parish: The California Co. G-12 State Lease 1277, Main Pass Block 69. Oil Well. TD 7,461 feet, perfd. 7,234-46 feet. PT 201 BOD on 32/64-inch choke. Gra. 35.1. Block 68, Main Pass Area.

Plaquemines Parish: The California Co. 1 State Lease 1923 et al Unit 7, South Pass Block 24. Oil Well. TD 9,203 feet, perfd. 8,822-40 feet and 9,034-46 feet. PT 119. BOD on 10/64-inch choke. GOR 523-1. Gra. 28.2. On shore, South Pass Area.

Plaquemines Parish: The California Co. 2-A State Lease 2566, South Pass Block 41. Dry Hole. TD 4,974 feet in

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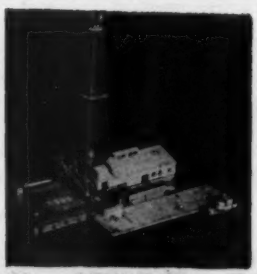

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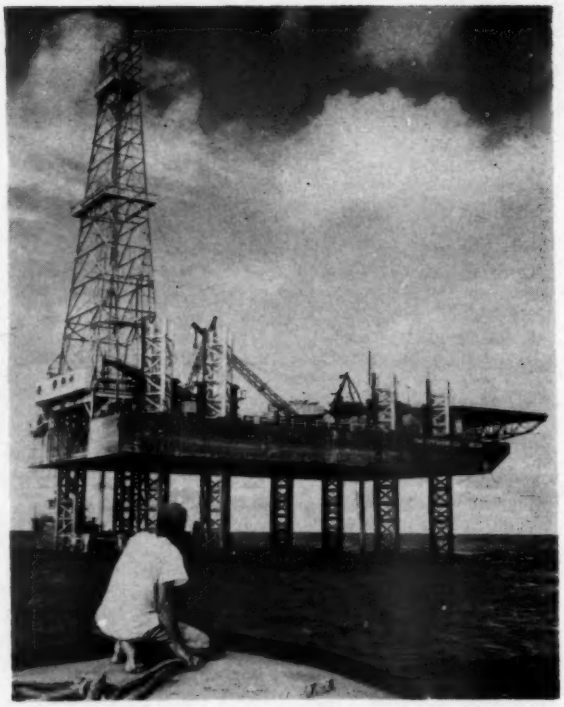


Using The Offshore Company's MOBILE UNIT NO. 54 Shell Oil Company has completed an oil strike in Block 188 of the Eugene Island Area off St. Mary Parish. The test was in 67-foot water. See story page 67.

STH. Drilled to 10,895 and stuck drillpipe. Sidetracked hole to listed TD and Abandoned.

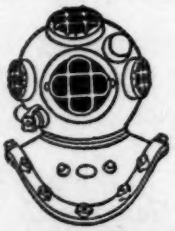
Plaquemines Parish: The California Co. 2-D State Lease 1069, West Delta Block 30. Dry Hole. TD 12,010 feet in STH. Stuck drillpipe and temporarily abandoned. Block 29, West Delta Area.

St. Mary Parish: Shell Oil Co. 2-B OCS 0478, Eugene Island Block 128. Dual Oil Well. Republished to show second completion. TD 10,004 feet. Perfs. 9,920-45 feet, IPF 222 barrels daily on a 9/64-inch choke. Grav. 39. GOR 923-1. Perfs. 8,598-622 feet, IPF 273 BOD and 173 MCFGD on 8/64-inch choke. Gra. 39. Block 116, Eugene Island Area.

Terrebonne Parish: J. Ray McDermott-Magnolia Pet. Co. F-1 State Lease 767, Ship Shoal Block 72. Dry Hole. TD 16,004 feet. Ran electric log and took side wall samples 11,-483-12,289 feet. Block 73, Ship Shoal Area.

Terrebonne Parish: The Texas Company 1 State Lease 2986, Caillou Island. Dry Hole. TD 5,121 feet. Block 11, South Timbalier Area.

FR. 4123—VA. 6647 Night: VA. 6647—FR. 8185



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Gulf Oil's "Hurricane Inspector" Records Data on Storms at Sea

A robot "Hurricane Inspector" now being built by Gulf Oil Corporation will sit through the worst storms dished up by open water up to 100 miles offshore in the Gulf of Mexico and report what happens inside them.

It is believed the "Inspector" will be the first sleuth, either human or electronic, in marine history to scientifically measure the forces of waves, winds, tides and currents in the open sea and in water depths over 100 feet.

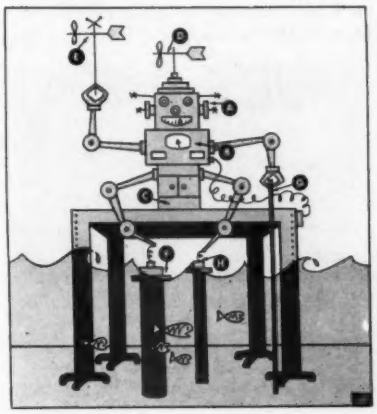
Strangely enough, almost no exact data of this type exists. Previous research on these forces, by the Navy, Coast Guard and Geodetic Survey, has been conducted chiefly in the shallow water along the shore line.

The complicated engineering mechanism has been created by Gulf Research & Development Company at Harmarville, Pennsylvania, with the aim of learning the strength needed on offshore drilling platforms to protect the operating crews and equipment.

The design of these platforms is based on the "hind-casting" method, developed during World War II to gauge beach landings. "Hind-casting" calculates future storm violence from past observations correlated with theoretical maximum sea forces in relation to the depth and exposure of particular areas.

While considered fairly reliable, no one knows for sure to what degree and in what direction "hind-casting" may differ from actual fact.

So a lot of treasured sea legends —and perhaps scientific theories, too —may go by the board when the "Hurricane Inspector" starts turning in its reports. It will check on those "100-foot waves" old salts like to describe, on the 60-foot wave scientists theorize can occur on the continental shelf once in 35 years, and on the maximum of 40-foot waves estimated by "hind-casting."



Cartoon sketch of the pioneer electronic device built by Gulf Oil Corporation. Designed as a protection for crews employed in offshore drilling, the "Hurricane Inspector" can record for the first time the forces of winds, waves, tides and currents in open water as far as 100 miles from land. Its components: (A) instrument and (B) recording cabinets; (C) 32-volt operating battery and (D) wind generator to charge it; (E) wind velocity and direction detector; (F) wave force detector and (G) step resistance gauge for wave height; and (H) mean water level detector.

Many lives will be at stake in opening the great Gulf of Mexico oil frontier, where lies a large portion of the nation's unexplored petroleum reserve; and Gulf Oil Corporation intends to take no chances on tradition or theory.

Adaptation . . . Not new in the sense of being developed from the ground up by Gulf, the "Inspector" is a complicated adaptation of existing instruments. The problem was to unite them into a compact unit which would record and correlate many types of information.

Two heavy-steel, water-tight boxes, one about the size of a small household refrigerator and the other slightly smaller make up the unit. The whole is self-operated by a battery continually re-charged by a wind generator. Moisture absorbers are included to keep the delicate instruments damp-free.

The boxes contain amplifiers, power units, connecting cables, sequence timer, timing marker, and two recorders for imprinting six channels of information on running chart paper correlated with the date, hour and minute. Recordings will be automatically taken for two minutes each half hour.

The "Inspector" will record the height of waves, period between crests, and the tide during their occurrence. From this data wave length and velocity can be computed. A "wave profile recorder," in which insulated spark plugs momentarily short out as a wave passes over, will do the measuring.

Wind velocities will be noted by a wind velocity-wind direction indicator up to 100 miles per hour. Above that a wind gust indicator will take over .

Wave and current forces will be measured by two steel tube piles, one smaller than and standing inside the other. The outer pile will absorb the force, and the inner unaffected one will give a comparison. Electric strain gauges transmit the data.

The "Inspector" will run about 100 feet of chart paper every two weeks, at which time it is changed. All units of the device are separately replaceable, and "spares" are included, so a layman can keep them operating.

Present drill platforms are built 40 feet above mean water level based on "hind-casting," and about the deepest water any stand is in so far is 125 feet. However at that depth a platform is equivalent in height to a 15-story building.

Platforms represent a big investment in lives, not to mention money; and the company thinks the "Inspector" will more than pay its way.

Mid-Continent Supply Names Six to New Sales Positions

Jones

Sellers

In an expansion move, Mid-Continent Supply Company's President Ken W. Davis recently told of personnel changes affecting company operations.

J. P. Jones has been moved to the firm's Fort Worth headquarters and named Assistant to General Manager of Sales. W. A. Sellers recently assumed duties as Assistant to General Division Manager. Jones was District Manager at Houston and Sellers District Manager at Odessa before they were promoted to the new positions at Fort Worth.

R. S. Weilman, former New Orleans District Manager, is new Gulf Coast Division Manager.

Wellman

Ramsey

J. O. Ramsey at New Orleans was promoted to District Manager. Included also in Mid-Continent's district expansion is the promotion of W. R. Shuffield to District Sales Representative at New Iberia.

In Caracas, J. W. Davis has assumed new duties as Venezuelan Manager.

Davis

Shuffield

Baroid Promotes, Adds Staff

Fifteen men assume new positions, responsibilities for the Houston company in the Gulf Coast area

Important promotions and transfers in six departments of Baroid Division, National Lead Company, have been made, concerning personnel in Texas, Oklahoma, and Louisiana.

Wilson

R. W. Wilson has been named assistant manager, Technical Sales and Operations. Wilson was formerly manager of the Well Logging Department.

Replacing Wilson is R. E. Souther, manager of the Houston Equipment Department.

P. J. Moore succeeds Souther as manager of the Equipment Department. Moore is a former sales engineer in the Equipment Department.

C. J. Benefiel, former transportation superintendent of Mud Products, Inc., at Tulsa, is now manager of the Transportation Department with headquarters in Houston.

William J. Miller has joined the Equipment Department as pilot-engineer and will devote a portion of his time to the engineering section of the department as a project engineer. With the addition of Miller to the staff, C. W. Felker has been appointed district superintendent of District 51 at Lake Charles, Louisiana.

W. G. Bealmear, S. E. Geffen, and J. W. Maltby, former district superintendents in Corpus Christi, Fort Worth and New Orleans respectively, are now area superintendents of Well Logging in Southwest Texas, Mid-Continent and Eastern Gulf Coast areas.

A. R. Lane has been named well logging district superintendent in Southwest Louisiana at Lafayette; he was formerly assistant district superintendent.

Well-logging captain C. L. Apple, Jr., formerly stationed in British Honduras, has been made well-logging superintendent of Northern Louisiana, Arkansas, and East Texas, with headquarters in Shreveport, Louisiana.

V. R. Kayser has been made well-logging district superintendent in Southwestern Texas, with headquarters in Corpus Christi. He was formerly a well-logging captain.

The new Mud Department district office in Houma, Louisiana, will be supervised by G. G. Allen, who was formerly area engineer in the Texas Gulf Coast with offices in Houston.

His successor is R. K. Epps, who was formerly Mud Department district sales representative in District 44, with headquarters at Corpus Christi.

V. S. Hefley has been appointed district sales representative of Mud De-

(Continued on next page)

Souther

Moore

Benefiel

Miller

Allen

Epps

Lamm

Hoig

Baroid Promotes . . .

(Continued from preceding page)

partment District 44 at Corpus Christi. He was formerly a service engineer in the same district at McAllen, Texas.

Donald C. Lamm, formerly with Rittenhouse & Company, Inc., and Foote, Cone & Belding, advertising agencies of Houston, has joined Baroid's advertising staff as assistant to the manager. Mr. Lamm's duties will be primarily in production and graphic arts field. He will aid in the preparation of trade journal advertising, brochures and other direct mail pieces.

Stanley W. Hoig, formerly with Douglas Aircraft Company in Tulsa, Oklahoma, has also joined Baroid's advertising and publications staff as assistant to the manager. His duties will be primarily in the editorial field where he will be assistant editor of the Baroid News Bulletin and do work on the company's technical bulletins and handbooks.

Agency Opens New Office, Appoints Resident Manager

The opening of a Houston office in the new Bank of the Southwest Building in Houston by Darwin H. Clark Co., Los Angeles advertising agency, and appointment of James W. Gerrard, vice-president, as resident manager were announced recently. Gerrard has been account supervisor of the Agency's Los Angeles office.

The Clark Agency handles a wide range of industrial, consumer, and financial accounts. It is the exclusive Los Angeles and Houston member of Transamerica Advertising Agency Network, with affiliated offices in 20 principal cities of the United States.

Oil Man's Calendar:

NOVEMBER

5-7 Canadian Inst. of Mining & Metallurgy, annual western meeting, Vancouver Hotel, Vancouver, B. C.
8-9 American Assn. of Oil Well Drilling Contractors, 11th annual safety clinic, Statler-Hilton Hotel, Dallas
8-9 Society of Automotive Engineers, national fuels and lubricants meeting, The Mayo Hotel, Tulsa
8-9 AAPG, Society of Exploration Geophysicists, SEPM, Fall meeting, Ambassador Hotel, Los Angeles
12 API OIIC Steering Committee, Conrad Hilton Hotel, Chicago
12-15 API 36th Annual Meeting, Conrad Hilton Hotel and Palmer House, Chicago
13-14 API Board of Directors, Conrad Hilton Hotel, Chicago
14 API Board of Directors, Executive Committee, Conrad Hilton Hotel, Chicago
19-20 AIMME, North Texas Secondary Recovery Symposium, Municipal Auditorium, Wichita Falls, Texas
25-30 ASME, Statler Hotel, New York City
29-Dec. 1 Interstate Oil Compact Commission, annual meeting, Allis Hotel, Wichita

DECEMBER

3-4 New Mexico Oil & Gas Assn., annual meeting, Alvarado Hotel, Albuquerque
6-7 API Oil Industry Information Committee, Biltmore Hotel, New York City
16-18 Kansas Independent Oil & Gas Assn., annual meeting, Broadview Hotel, Wichita

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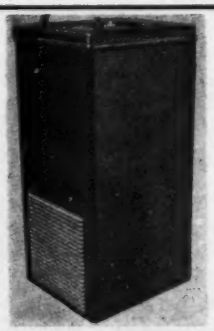

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"Yes, Dad."

"Son, do you remember when we were at the ranch last summer?"

"Yes, Sir."

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"Yes, Dad."

"And do you remember what you were doing down by the water tank one night when I happened to come along?"

"Uh, yes, Dad."

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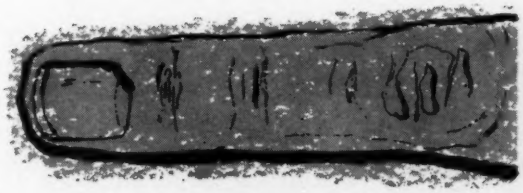

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